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ORIGINAL ARTICLES.

THE MINERAL FOODS AND HOW TO GIVE THEM.[1]

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Huxley gives the following table of what a full-grown man should weigh, and how this weight should be divided. "Weight 154 pounds, made up thus: Muscles and their appurtenances, 68 pounds; skeleton, 24 pounds; skin, 10½ pounds; fat, 28 pounds; brain, 3 pounds; thoracic viscera, 3¼ pounds; abdominal viscera, 11 pounds; blood which would drain from body, 7 pounds (*Med. World*, Vol. 3, p. 8)." More or less rapidly these have all to be renewed; change is life, stagnation is death; to provide materials to rebuild the body, its bones, its muscles, its fat, its skin, its nerves, its viscera, etc., is one of the destinations of the food we consume; the other is to supply the force we require for existence; force to repair worn out tissues; force to think; force to labor; force to generate the heat necessary to the perfect working of the human machine;—for these purposes many and various elements are needed, and one or another constituent portion of the body may be starved by the absence from the food of the material necessary for its sustenance.

Foods naturally divide themselves into two classes, the organic and the inorganic. The organic foods are again divided into the plastic elements of nutrition (Liebig), the calorifient (Thomson), calorifacient (Pavy), the non-nitrogenous or carbonaceous, and these have been subdivided into "1st, the hydrocarbons, fats; 2nd, the carbohydrates, starch, sugar, etc.; and 3rd, principles such as alcohol and the vegetable acids, which do not strictly belong within either of the preceding groups" (Pavy).

The members of the organic group have been thoroughly discussed in all their bearings by numbers of eminent authorities, but the inorganic elements come in but for a very small share of attention. We are told, it is true, that milk contains all the elements necessary to the building up of the body, although they are present in such proportions as to make it an unsuitable diet for an "adult population" (Chambers, p. 23). Eggs, when the shells are included, furnish the necessary material to build up the body in all its parts; but our people do not eat the shells with their eggs. Finally we are informed that "*if* we are supplied with nutritive salts through meat or other articles consumed, we can spare them without detriment from our bread" (Pavy.) When the days of milk diet are past, and the era of candies and starches is entered upon, where the quantity of meat, and, indeed, most other nitrogenous foods, has been reduced to a minimum, and hot breads and cakes and various starchy pastes under fancy names are increased to the maximum, there is, in fact, no source from which to draw a sufficient supply of the earthy foods. Inorganic matter, under the form of saline materials, and water are equally as essential for satisfying the requirements of life as the organic components of food. Although such saline materials and water do not appear to be individually concerned in the interplay of changes which form the source of the phenomena of life, they nevertheleless enter as essential elements into the constitution of the textures and fluids of the body, and thus must needs be supplied to an adequate extent to meet the requirements of nutrition and secretion with the food from without (Pavy).

The tone adopted by Dr. Parkes when speaking of the mineral matters of the food seems to indicate that it is a path on which he treads with uncertain steps. In the following quotations I have italicised some of those phrases which express the indecision of the writer as to the function and value of the mineral foods: "The salts and water are as essential as the nitrogenous substances. Lime, chiefly in the form of phosphate, is absent from no tissue, and *there is reason to think* ("Manual of Practical Hygiene," vol. 1, p. 207) no cell growth can go on without it; certainly in enlarging morbid growths and in rapidly-growing cells it is present in large amount. Where phosphate of calcium was excluded from the diet the bones of an adult goat were not found by H. Weiske to be poorer in lime, because *probably* lime was drawn from other parts, but the goat became weak and dull, so that nutrition was interfered with."

"Magnesia *is probably* also an essential constituent of growth in some tissues. Potash and soda, in the forms of phosphates and chlorides, are equally important, and would seem to be especially concerned in the molecular currents. Forming parts of almost all tissues, they are less fixed, so to speak, than the magnesian and lime salt. It is also now certain that these two alkalies do not replace each other, and have a different distribution; and it is so far ob-

[1] Read in the Section on Practical Medicine, Materia Medica and Physiology, at the Thirty-Sixth Annual Meeting of the American Medical Association.

servable that the potash *seems* to be the alkali for the formed tissues, such as the blood cells or muscular fibre, while the soda salts are more largely contained in the intercellular fluids which bathe or encircle the tissues.

The chlorine and phosphoric acids have also very peculiar properties, the former, *apparently* being easily set free, and then giving a very strong acid which has a special action on albuminates, and the latter having remarkable combining proportions with alkalies. *Both are furnished in almost all foods*, the sodium chlorate also separately. . . . . Iron is of course also essential for certain tissues or parts, especially for the red-blood corpuscles and for the coloring matter in muscle, and, in small quantity is found almost in every tissue and in every food. The sulphur and phosphorus of the tissues appear to enter specially as such with the albuminate."

"Some salts, especially those which form carbonates in the system, such as the lactates, tartrates, citrates, and acetates, give the alkalinity to the system which seems so necessary to the integrity of the molecular currents. The state of malnutrition which in its highest degree we call scurvy, appears to follow inevitably on their absence." Compare this view with that of Pavy (p. 17): "These principles are hardly of sufficient importance in an alimentary point of view to call for their consideration under a distinct head."

Scurvy.—In a description of the mode of living of the Icelanders given by Pavy (p. 305), the inference is drawn that scurvy and leprosy, which are common on the island, result from an exclusively animal diet. This conclusion seems to be rather strained, because no mention is made of the existence of similar diseases among the Esquimaux or the Greenlanders, or other nations who are likewise carnivorous; indeed, in another place (p. 367), the author speaks of certain inhabitants of South America (Pampas Indians and Guachos) who are purely carnivorous, as being remarkable for their powers of endurance. From this evidence it seems that we must look farther than the animal food for the cause of scurvy. Has the absence of mineral food, and probably of albuminates also, anything to do with the production of scurvy? It is quite sure that certain of these are notably absent from the diet of the sailor, who is a well recognized subject for the disease. The analysis by Girardin of brine shows that much of the nutritious matters, organic and mineral (phosphoric acid, lactic acid, magnesia) have passed out of the meat. Liebig has reckoned the nutritive loss at one-third, or even one-half. It appears from Külme's observations that myosin is soluble in a 10 per cent. solution of chloride of sodium, and hence a large quantity of this substance necessarily passes into brine. Analyses show, it is true, a large percentage of fibrin and cellular tissue in salt meat, but this is made up of indigestible nitrogenous substances which afford probably little real nutritive material" (Parkes, p. 214). It does not require the eye of an expert to read here between the lines that the absence of mineral and nitrogenous foods would here be a powerful factor in production of scurvy.

To be, if possible, a little more contradictory, Parkes (p. 223) says: "Men can be fed on meat for a long time, as a good deal of fat is then introduced, and if the meat be fresh (and raw), scurvy is not readily induced."

We will now examine the proportion of mineral matters to be found in various articles of food and in different dietaries

Composition of lean beef (Pavy).

Nitrogenous matter	19.3
Fat	3.6
Saline matter	5.1
Water	72.00
	100.0

A purely beef diet would require 3½ pounds to supply the amount of carbon necessary to sustain the human body in health (Chambers). This would be a waste of say 1½ pounds of meat, because the amount of nitrogen demanded by the system would be contained in about 2 pounds of beef, so that the remaining nitrogen would be useless. It is not probable, however, that races of men living entirely upon meat, as, for example, the Pampas Indians, would be much troubled with the scientific economy of their diet. It is safe, then, to assume that the minimum of meat consumed under these circumstances would be 3½ pounds, which give 1,2,00 grains, say 3 ozs. (av.) of salts.

Let us now turn to some of the dietaries, and see how they have been provided with inorganic foods.

Subsistence diet (Pavy).

Nitrogenous matter	2.33
Fat	0.34
Carbohydrate	11.69
Mineral matter, none.	

Diet of adult in full health with moderate exercise (Pavy). The dietaries of the English, French, Prussian and Austrian soldiers during peace are taken as the basis of this class. The mean of these dietaries stands as follows:

Nitrogenous matter	4.215
Fat	1.397
Carbohydrate	18.690
Mineral matter	0.714

About 357 grains of mineral matter, being less than one-third the normal amount.

Diet of active laborers (Pavy). To represent this class Dr. Playfair has put together the dietaries of soldiers engaged in the arduous duties of warfare, English, French, Prussian, Austrian, Russian, Dutch, Federal and Confederate.

The mean of the above gives the following quantities:"

Nitrogenous matter	5.41
Fat	2.41
Carbohydrates	17.92
Mineral matter	0.08

The dietetic value of the food of the Royal Engineers is given as follows: (Pavy).

Nitrogenous matter	5.08
Fat	2.91
Carbohydrates	22.22
Mineral matter	0.93

Diet of hard-working laborers (Pavy).

Nitrogenous matter	5.64
Fat	2.34
Carbohydrates	20.41

The preceding is deduced from the dietary of the English navy in the Crimea, laborers working on the Rouen railway, weavers, tailors, blacksmiths, and English and French sailors.

Diet of the English soldier on home service (Pavy).

	OUNCES.
Nitrogenous matter	3.86
Fat	1.30
Carbohydrates	17.35
Mineral matter	0.808

This is according to Dr. Parkes.

Dr. Playfair's analysis mades the organic matter higher and the mineral matter somewhat less.

Nitrogenous matter	4.250
Fat	1.665
Carbohydrates	18.541
Mineral matter	0.789

Prison diet presents the extraordinary fact that more mineral matter is present in it than in those just mentioned, thus:

	OUNCES.
Hard labor diet, per diem.	
Mineral matter	1.963
Light labor diet, per diem.	
Mineral matter	1.715
Industrial employment diet, per diem.	
Mineral matter	1.616
Penal diet, per diem.	
Mineral matter	0.972
Punishment diet, per diem.	
Mineral matter	0.368

In many of the analyses of diet no mention is made of the mineral matter, showing the low estimate placed upon its value as a nutritive element by the various writers upon the subject of dietetics. Of course it must have been present, but perhaps in very minute quantity, and be it further remarked, that the analyses which are given do not suggest the condition in which the mineral matters exist in the diet, for it must not be forgotten that while showing well in chemical investigations, they may be in such a state as to be wholly indigestible.

Wheat flour in some form constitutes the principal food of the persons with whom we have to deal, and if the higher grades of wheat are taken as examples, and if the whole grain could be digested and assimilated, its chemical composition would leave little to be desired, containing,

Nitrogenous matter	22.75
Starch	58.62
Dextrine, etc	9.50
Cellulose	3.50
Fatty matter	2.61
Mineral matter	3.02
	100.00

Unfortunately, however, most of the mineral matter is in a condition to pass undigested through the alimentary canal, even if employed as food; but in reality it is nearly all removed during the process of manufacture into flour, so that the proportion left is but 1.7 to 1.60, and this probably of undigestible matter. Neither in the vegetable nor in the mineral kingdom can we find any digestible substance having the chemical composition or the mechanical construction of bone. Strange indeed as it may appear, chemists seem to be somewhat divided as to the arrangement of its elements.

"It was Scheele who announced that the earthy part of the bones is phosphate of lime. A hundred parts of fresh bone are reduced to about sixty by calcination."

"According to the analysis of M. Berzelius, human bones deprived of water and fat have the following composition: Animal matter reducible to gelatine by decoction, 32.17; insoluble animal substance, 1.13; phosphate of lime, 51.4; carbonate of lime, 11.30; fluate of lime, 2.0; phosphate of magnesia, 1.16; soda and muriate of soda, 1.20.

"Fourcroy and M. Vauquelin, in their first trials, did not find phosphate of magnesia in human bones. According to M. Hildebrandt, there is none of that substance in them. According to Dr. Hatchett, there is sulphate of lime in them, which, according to M. Berzelius, is a product of calcination. Lastly, Fourcroy and Vauquelin admit moreover in the bones, iron, magnesia, silica, alumina, and phosphate of ammonia, but no fluate." (Beclard's Anatomy, pp. 259, 260.

"The bones of different animals differ somewhat in composition. With reference to the bones of *mammalia* the following has been established: Those of herbivora are somewhat richer in carbonate of lime than those of carnivora; those of pachydomata and citacea are particularly rich in it" (Lehman's Chemical Physiology, p. 205).

The analysis by Marchand gives

Organic matter.	
Cartilage insoluble in hydrychloric acid	27.23
Cartilage soluble in hydrochloric acid	5.02
Vessels	1.01
Inorganic matter.	
Phosphate of lime	52.26
Fluoride of calcium	1.00
Carbonate of lime	10.21
Phosphate of magnesia	1.05
Soda	.92
Chloride of sodium	0.25
Oxides of iron and manganese and loss	1.05
	100.00

Von Bibra's figures are as follows:

Organic matter.	
Cartilage	29.54
Fat	1.82
Inorganic matter.	
Phosphate of lime with a little fluoride of calcium	57.42
Carbonate of lime	8.92
Phosphate of magnesia	1.70
Soluble salts	0.60
	100.00

"According to Dr. Stark, the relative proportions of cartilaginous and earthy matter in the bone of different animals, in the bones of the same animal at different ages, and in the different bones of the same body, never depart widely from the preceding standard; the amount of earthy matter being always found to be just double that of the cartilaginous basis when the bones have been carefully freed from oily matter and completely dried previous to analysis. The hardness of the bone, he maintains, does not at all depend upon an unusually large proportion of earthy matter; nor does their increased flexibility and trans-

parency indicate a deficiency of the mineral ingredients; for the transparent, readily cut bones of fish contain the same amount of earthy matter in proportion to their gelatinous basis as do the dense, ivory-like bones of the deer or sheep. The same holds good of the bones even of the so-called cartilaginous fish. The difference appears to depend upon the molecular arrangement of the ultimate particles, and especially, it seems likely, upon the relative amount of water which the bones contain." (Carpenter's Physiology, p. 271).

To be of any real advantage, the minerals must become a portion of the food of the people. It is not to be expected that each will take a dose of syrup or elixir, or a powder or a pill at each meal. It will not be done. The mineral food must be in the bread, in the cakes, in the soup, it must be everywhere in sufficient quantity to effect its mission, but without permitting its presence to be detected by any change of flavor, odor or appearance. Is there anything which will fulfil these requirements? So long as chemists are not agreed upon the real nature or constitution of the bony structures of the body, it certainly must be a fruitless task to endeavor to manufacture an artificial substitute for the natural product, and moreover, the cellular structure of bone can never be successfully imitated. It is more than probable, therefore, that bones will in the near future form the staple food of civilized man.

Taking phosphorous as an example of mineral foods, let us briefly examine the effects of a famine of phosphorous. If it is conceded that phosphorous is a necessary nerve food, it follows that the absence of it means nerve starvation, and a consequent proportionate inability to perform any work requiring nervous energy. Beginning with fœtal life, we would naturally expect that the results would be seen in imperfectly developed, weakly children. Such doubtless would be the consequence but that there exists in the osseous structure of the mother an ample store from which the fœtus can draw its supply. In growing children we would expect to find a deficiency of the osseous structures, with nervous debility manifesting itself in various ways, amongst others, an increasing inability to do school work. Passing along a little farther we find (especially among the females) children breaking down before they are well grown. They have the years of youth with the diseases of old age.

Among adults various forms of nervous weakness become manifest (the neurasthenias of Beard), and in childbearing women there are in addition the evidences of direct absorption in the teeth and alveolar process. Each of the tissues of the body shows the effects of the absence of the proper nerve food. The starved nerve tells its tale of starvation through the language of a neuralgia. Aching and enfeebled muscles remind us of slowness of tissue repair, eruptions on the skin and catarrhs of mucous membranes show diminished nerve power in the tissue. Decaying and loosing teeth become evidences of unhealthiness or of the absorption of the osseous system. Thus will each tissue unmistakably demonstrate the condition of starvation in which it finds itself.

Man certainly enters upon life as a carnivorous animal, living upon animal food in a liquid form, milk. If, during the early months of his existence, gastric or intestinal irritation should come on, so that milk will disagree with him, passing through undigested or producing unpleasant symptoms, then will the expressed juice of beef be found to be the best nutriment that can be administered, not excepting white of egg.

If the child is permitted to follow the bent of his own inclination, his next dietetic step will be to meat. It is rare indeed to find a child who will refuse meat, most of them take to it ravenously, not unfrequently eating it raw by preference; but the child is coaxed or punished out of this natural taste, and "*nolens volens*" becomes more or less a vegetarian, generally a little more.

While the strength and the robustness of vigorous manhood are upon him a man tolerates this vegetable diet, but sooner or later there comes a time when the organs lose their power of digesting these substances, and a more generous animal diet is required to stimulate and invigorate the decaying man.

Finally comes the stage of senile decay, when a little milk or beef juice or nourishment of that class is all that will be tolerated. The dietetic circle is complete, second childhood is here, and the individual sinks slowly, peacefully and unconsciously back into the earth whence he came.

Such would be the course of human existence could it run smoothly and uninterruptedly to its natural end, but accidents and diseases, the latter being in a great degree the consequences of our hygienic transgressions, more frequently terminate what would otherwise be a long and perhaps useful life.

Parkes, p. 206, makes by implication a statement disparaging to the effects of a purely animal diet. When speaking of the possibility of substituting carbohydrates for fats; "if so," says he, "a man could live in perfect health on a diet composed only of fat-free meat and starch with salts and water, just as he can certainly live (*though perhaps not in the highest health*) on meat, fat, salts and water." If now we turn to the personal experience of Sir Francis Head and others quoted by Pavy, p. 307, we find statements quite at variance with this idea of Parkes'. He says: In "F. B. Head's Journeys Across the Pampas" (page 307, op. cit.) is an interesting description of the Indians who inhabit the vast unknown plains of the pampas. "In spite of the climate, which is burning hot in summer and freezing in winter, these brave men, who have never yet been subdued, are entirely naked, and have not even a covering for their head. They have neither bread, fruit, nor vegetables, but *they subsist entirely on the flesh of their mares.*[1] The ground is the bed on which, from their infancy, they have always slept. The flesh of mares is the food on which they have been accustomed to subsist."

Sir Francis Head, when crossing the pampas, got tired at first with the constant galloping, and was forced to ride in a carriage, after five or six hours on horseback. "But after," says he, "I had been riding

[1]The italics are mine.—R. J. N.

for three or four months and had lived on beef and water, I found myself in a condition which I can only describe by saying that I felt no exertion could tire me. Although I constantly arrived so exhausted that I could not speak, yet a few hours' sleep upon my saddle, on the ground, always so completely restored me that for a week I could daily be upon my horse before sunrise and could ride till two or three hours after sunset, and have really tired ten or twelve horses a day. This will explain the immense distances which people in South America are said to ride, and which I am confident could only be done on beef and water." (op. cit., 307). Again, "We find a people living between the twentieth and fortieth parallels of latitude in the Argentine Republic, known as Guachos (the half-white inhabitants of the pampas). They are a mixed race, of Indian and Spanish blood, who are employed at the ranchos, or great cattle stations, and spend the greater part of their time on horseback in hunting the half-wild cattle which roam over the wide grassy plains extending from the Atlantic coast to the foot of the Andes. * * * Those people live entirely on roast beef with a little salt, scarcely ever tasting farinaceous or other vegetable food, and their sole beverage is mati, or Paraguay tea, taken without sugar." (Odontological Society's Transactions, Vol. II, New Series, p. 44, op. cit. 307).

That man in his natural condition is a carnivorous animal, is evidenced by prehistoric finds in caves, in the kitchen middens (kjokken moeddings), in mounds, tumuli or burrows or tombs, and by cromlechs, or dolmens, which have already been discovered and explored in various parts of Europe, and which doubtless exist in various portions of the world. During the many thousands of years embraced in the paleolithic period, the life of the human dweller upon this globe was that of a hunter, and his food the result of the chase. Not only had he not learned to till the ground, but he had not even arrived at the domestication of an animal of any kind. ("Dawn of History," by C. F. Kearz, A.M., p. 15, et seq.). "According to Dr. Hyades, who has lately returned from Tierra del Fuego, whither he was despatched on a mission by the French government, the Fuegians are the lowest human beings in the scale of existence. The language contains no word for any number above three; they are unable to distinguish one color from another; they have no religion and no funeral rites, and they possess neither chief nor slaves. Their only weapons are bone-pointed spears; they grow neither fruit nor vegetables; and as their country is naturally barren, they are obliged to live entirely on animal food. But they are not cannibals; they ill-treat neither their women nor their old people, and they are monogamous." (*Brit. Med. Jour.*, March 7, 1885, p. 482).

Dr. Livingston says: "When the Makololo go on a foray, as they sometimes do a month distant, many of the subject tribes who accompany them, being grain eaters, perish from sheer fatigue, while the beef eaters scorn the idea of even being tired." (Pavy, p. 340.) Dr. Pavy's own opinions on this subject cannot be better expressed than by the following quotations: "Lean meat has always entered largely into the diet for training, and experience shows that it contributes in a higher degree than other food to the development of strength and energy. If we look at the lower animals and compare the carnivora with the herbivora we notice a striking contrast in their muscular vigor and activity. It has been ascertained physiologically that animal food disposes to the removal of superfluous water (xx) and fat, and makes the muscles firm and rich in solid constituents. The accounts that are furnished by travelers point to the aptitude of a meat diet for increasing the power of performing muscular exertion." It is asserted that the length of the intestine in a full grown ox is 150 feet, while in the man the length is 32 feet. In proportion to the length of the animal this would give in round numbers for the ox 15 feet of intestine to 1 of length for the man, 5 to one; while the lion is set down as having but 3 to 1. The development of the cecum in man also shows a leaning toward the carnivora." (Pavy, p. 317.)

The action of the jaws in the human being during mastication is not that of grinding, as in the ruminantes, and is therefore unfitted to reduce vegetable fibre to a pulpy condition, such as would render it digestible by human digestive organs of ordinary activity. On the contrary, the motion is one rather of compression and more suited for cutting and squeezing, and is the one likely to prove most efficacious in the mastication of meat.

Among the teeth the carnivorous teeth predominate. The simplicity of the digestive apparatus is that of the carnivora. "In the bile of the carnivora and of man the golden red color is caused by bilirubin ($C_{16}H_{18}N_{208}$). In the herbivora the green tint is due to biliverdin ($C_{16}H_{18}N_{204}$). Bile salts are chiefly *sodium glycocholate* and *taurochoiate*. In the bile of the herbivora glycocholate is in excess; in that of man and carnivora, taurocholate." (Dr. J. C. Draper.)

In man also the chemical constitution of the urine resembles more that of the carnivora than that of the herbivora. Those interested in the antiseptic action of the bile salts will find a very interesting résumé of the subject in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, March 21, 1887, p. 325. The relatively great length of the bowels in the herbivora would indicate that the "succus entericus" is much concerned in the digestion of vegetable foods, hence it would follow that while the herbivora might readily live upon animal food, it would be difficult for the carnivora to subsist upon a vegetable diet. In the herbivora there would simply be an excess of digestive powers; in the carnivora there would be a want of it; and so we find that in its efforts to accommodate itself to its changed diet, the originally short intestinal canal of the wild-cat has been lengthened in the domesticated animal.

From what has been brought forward it seems self-evident that the most natural place in which to seek for our mineral foods is among the animal structures themselves. In the bone we find ready at our hand all the elements required, each in its due proportion, and we need no longer trouble ourselves with the dispute going on among chemists as to the precise

condition of combination in which they exist. The bone waste and dust caused by sawing and other mechanical operations in the manufacture of various articles from bone, are used to feed cattle and poultry. (*Scientific American*, January, 1885, p. 551.) "Dadd's Veterinary Medicine, p. 370, suggests use of 'flour of bone' for dogs in need of phosphates. English patent No. 891, of A. D. 1862, describes a food for dogs and other animals in which bone flour and barley meal are ingredients."

Of course it may be objected there is not of necessity any parallelism between the effects of such food upon animals and upon man. "Animal nitrogenous substances appear to be more easily digested than vegetable." And as with nitrogenous substances so it is believed that animal fats are more easy of digestion or preparation for absorption than vegetable, (mineral fats or oils are entirely outside the discussion, as they come more within the domain of therapeutics,) the vegetable oils being usually more or less cathartic. It is not reasonable to suppose that the mineral matters will form an exception to this rule. But, on the contrary, analogy would lead us to argue that whereas, animal products of other kinds are most easily digested by man, that, therefore would bone be the most suitable form in which to give the mineral food.

In all chemical operations upon solid matters the rapidity and ease of reaction is increased in proportion to the minuteness of the subdivision; this rule holds good also in its application to the digestive process, and therefore it was not for a moment imagined that solid particles of bone of any considerable size could be either ingested with comfort or digested afterwards. There may have been a time when the human stomach was equal to such a performance, but it certainly is not in this our day. It is essential therefore that the bones should be reduced to the smallest possible state of mechanical subdivision, to an impalpable powder, as a condition precedent to their employment as a food adjunct.

Bone Flour.—To obtain pure, fresh, healthy bones in an impalpable powder was a problem which seemed to me most difficult of solution; but the business enterprise of Messrs. Parke, Davis & Co. came to the rescue, and this firm, at my solicitation, undertook the manufacture, and is now supplying a most elegant preparation, in fact the only one in the market. The firm write to me as follows: "In this preparation we have employed the cleanest bones that were attainable, and thoroughly cleansed them of all foreign matter, then gradually reduced them to dryness in a low temperature, and finally powdered them in our chasers. . . . And we believe that no portion of our process has permitted of the contamination of objectionable features."

Bone flour is not brought before the Association as a medicine; the very nature of the rôle it is intended to fill removes it from the list of remedies, of pharmaceutical preparations proper, and places it among the foods. It, from its very nature, is a diet, and its use is intended to rectify one of the dietetic mistakes which has descended to us from past generations and has been faithfully perpetuated by the present with constantly increasing strength and multiplying disastrous results, viz: the sifting out of mineral matters from the food; the tendency to live exclusively upon purely nitrogenous and carbonaceous alimentary substances. It is intended in some degree to offset the evil effects of the sedulously cultivated taste for a diet composed of sugar and starch in very abnormal proportions.

The quantity of bone flour which should be consumed is an important question. Pavy says, p. 322: "The amount of mineral matter required may be set down at from three-fourths ounce to one ounce daily." But he fails to say by what reasoning or upon what evidence he arrives at this conclusion. Probably one of the best roads to a solution of this question would be to assume man to be a flesh-eating animal and then to give him the same amount of mineral matter which he could receive if he was subsisting entirely upon meat. Nothing can be easier than the administration of bone flour. Being tasteless and in the state of impalpable powder, it can be given in breads, cakes, soups, or any medium thick enough to hold it in suspension for a few minutes.

Much remains to be said upon this subject, but the constantly increasing length of this already too voluminous paper warns me that I must reserve the further discussion of this matter to a future occasion.

THE TREATMENT OF UTERINE FLEXURES BY THE INTRA-UTERINE STEM.[1]

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I desire to make a plea for the more frequent use of the intra-uterine stem in flexures of the uterine body. I am convinced that this mode of cure is not practised as often as it should be, and that it is capable of affording relief in many cases which can be attained by no other method. We all know that thare is a very general distrust of the intra-uterine stem among the large body of medical practitioners —a distrust which is not born of experience, as it can be proved that at least one-half of the regular practitioners of medicine in the United States have not even given the instrument a single trial.

Their disinclination to use it arises simply from the reports which are given in the leading text books on gynecology, in which the dangers and disasters following its use are more emphatically referred to than the advantages to be derived from it. I am quite certain that the opinions expressed on this subject by certain of our leading authors are not the outcome of impartial, painstaking and numerous trials, but are much rather to be attributed to a natural desire to guard the less expert part of the profession from the supposed dangers attending the method, and I believe that many of the bad results which have attended the practice have arisen from one or all of the following causes: 1. To its application in improper cases; 2. To its introduction without

[1]Read in the Section of Obstetrics and Gynecology, at the Thirty-Sixth Annual Meeting of the American Medical Association.

preparatory treatment; 3. To the attempt to straighten a chronically flexed womb by the introduction of either a rigid or elastic stem.

This fear of the stem has induced practitioners to attempt the cure of flexures by manifold devices, many of which have enthusiastic supporters. In an excellent paper read by Dr. W. D. Kearns, at a late meeting of the Pittsburgh Obstetrical Society, the cure of flexures by instrumental dilatation was very highly praised. He stated that he had cured many cases by dilatation, and the same result was stated to have followed its use in other hands.

I have much faith in rapid instrumental dilatation in various conditions of the womb, having practised it freely during the past fifteen years. I have never seen any cellulitis or other form of danger follow its use, except in a single instance, in which a sharp attack of cellulitis followed its injudicious use in a patient with whom a former attack yet lingered in a latent form. I esteem it so highly that I shall never again incise the os internum so long as I can, by divulsion produce the same result without an open wound, and consequently without any danger of hæmorrhage, cellulitis or septicæmia; for, the mucous membrane being elastic and distensible in a high degree, suffers an extreme degree of tension without rupture. I do not think I have ever cured a decided flexure by dilatation; and, indeed, how a dilatation of the cervix could remove a bend in the uterine body seems rather difficult to understand. Neither have I cured any chronic cases by pessaries or by the genu-pectoral posture. By both these measures the fundus can be raised to a higher plane in the pelvis, but neither are capable of *unfolding* or straightening the uterus.

I am afraid that many of the supposed cures of flexion by dilatation are only apparent. It is well known that many of these cases are accompanied by stenosis at the os internum, and, therefore, dilatation, which removes the stricture and its train of symptoms, is credited with the cure of the flexure, whereas it only removes one of its complications. Slight and recent cases may be cured by intra-vaginal support, and, perhaps, by dilatation; but when we meet with old, retort-shaped flexures, in which the uterus has *grown* into distortion, we have but *one* remedy, and that is the *intra-uterine stem.*

The use of the stem has been subject to the same changes of opinion which have characterised many other methods of treatment. From the time when Prof. Simpson, in 1848, gave his first report of its use, up to the present period, it has been both lauded and denounced in unmeasured terms. It would require more time than can be given now even to mention the names of those who have introduced new shapes and new material. At a single meeting of the London Obstetrical Society, in 1873, three gentlemen presented each a new form of the instrument. At the present time the greatest diversity of opinion exists among our leading gynecologists. Prof. Thomas thinks it should only be employed in rare and obstinate cases. He believes that a large proportion of cases can be relieved by vaginal support. And I have no doubt but that he does relieve his cases in many instances by his admirable tact in the use of pessaries; but to relieve the most urgent symptoms by vaginal support is not to cure the flexure, and generally compels the patient to wear an instrument during the continuance of her menstrual life.

Dr. Goodell, who formerly said, ironically, that the intra-uterine stem was a very good instrument indeed —*to watch*, now says that a riper experience has wholly changed his views, and that there are many cases which can be satisfactorily treated in no other way.

Dr. Emmett denounces both the use of the stem and the use of dilators in the treatment of flexures as irrational and dangerous. He prefers, even in flexures of the body, surgical interference. He states, however, that he has cured retroflexion by the long-continued use of hot-water injections; by hot baths; by blistering the cervix in order to deplete by the watery discharge; by daily glycerine dressings; by careful attention to the bowels and to the general condition. And, in addition to all this, he directs that by degrees, as the tenderness subsides, the fundus should be lifted, day after day, as far as possible by the finger in the rectum. He states that he has succeeded, by these means, after months of daily manipulations, in restoring the uterus to position. I have no doubt but that this method will succeed in a certain number of recent cases; but even if a case were cured now and then by this tedious method, the questions would remain—How many would *not* be cured by it? How many patients would submit to such treatment long enough, or would be in circumstances to undergo it? If, then, we have a method which will render such long-continued manipulations unnecessary, and which, with proper precautions, can be proven to be as safe as any other, why should we not adopt it? That occasional trouble may follow the introduction of the stem cannot be disputed; but when intelligent precautions are taken, the treatment will compare favorably with other methods, and will far surpass in safety any surgical operations.

A stem should never be introduced into a congested womb without previous treatment. Even the successful application of a vaginal pessary requires this. If there be considerable tenderness upon pressure, or if there be evidence of previous cellulitis, or any other lingering chronic inflammation of the pelvic tissues, a preparatory treatment is absolutely necessary. If the uterus be heavy, and sinks into pelvis, it should be lifted up by glycerine dressings, keeping the patient in the recumbent position for a number of days and saline aperients given to deplete the pelvic tissues. When the fundus has remained in the hollow of the sacrum for some length of time, considerable congestion almost invariably exists, attended with complicatious due to obstructed circulation.

I have no doubt you are all familiar with various kinds of stem pessaries. It is unnecessary to go over the list of the different kinds that have been devised. Their name is legion, composed of wood, rubber, metal, glass, and porcelain; some stiff and

unyielding, some elastic and furnished with springs. Last and least, a split stem, which when introduced springs apart and so holds itself in place whilst dilating the uterine cavity. I hold that in all these stems the proper principle is violated. The chronically flexed womb cannot be straightened by force, nor even by a constant propulsive force as given by a spring. The only successful method that I know consists in gaining the desired position by short steps, with considerable intervals of *rest* between them, giving time thus for all irritation to subside, and the newly awaked nutritive forces ability to build up the long innutrition of the flexed point. I do not doubt that many chronic flexures can be cured in this manner, not excepting many congenital cases, for the building up of lost tissue can only be accomplished when entire absence of irritation and absolute rest are obtained, conditions which cannot exist when an unceasing irritating force is in operation. The result of efforts to forcibly straighten the womb is in no sense curative, for the unceasing irritation calls into action the formative power of the organ, and a hyperplastic deposit occurs, in the walls of the uterus, which becomes heavier and congested, a condition being thus established more formidable than the one attempted to be removed, for hyperplasia is not nutrition. I show you here a form devised by Dr. Chadwick, of Boston. You will observe that this delicate stem is elastic, and in this differs from most others. Introduce a stem like this, and if the womb has even a slight tendency to return to its flexed condition, the result will be that sooner or later this stem with its minute bulb will have buried itself in the soft and infiltrated walls of the uterus; but if the tendency to flexion be strong, as is usually the case, there will be hæmorrhage and such an amount of irritation, in a short time, as to compel its removal. Apart from these objections, the instrument has good points. If one wished to straighten a twig which had grown into an acute bend, he would not attempt to force it into a straight form at one effort, but you would apply such a moderate force as would compel the twig to *grow* straight. And the same practice lies at the foundation of the treatment of flexures with the uterine stem.

I have also an instrument which I have used with much gratification, and in the application of which the principle just announced is observed. It is made of hard rubber, and when heated can be bent into any desired curve. The part which rests in the uterine cavity is shaped like the cavity of the womb, flattened antero-posteriorly, and has a narrow stem passing through the cervix and os internum. It has a slight flange which tends to retain it in the uterine cavity. The button below is so large that it cannot pass into the cervical canal. The depth of the uterus is ascertained by the probe, and the stem is always one-fourth of an inch less in length than the measurement given by the probe. In using this instrument, I never pass it straight. When first introduced I bend it into the shape of the flexed uterine canal, making no attempt to straighten the the flexure until tolerance of the foreign body is established. It is then withdrawn and its exact curve outlined on paper. It is now bent to the slightest possible extent, lessening its curve by the aid of the outline, so that the lightest possible impression is made upon the uterine wall. It is now re-introduced, and after a variable interval, generally two or three weeks, is again withdrawn and bent in the same manner until the desired position is gained. Thus no force is used, no continued irritation produced, and nutrition is not prevented by irritation.

In regard to the various methods for retaining the stem, the ingenious plan of Dr. Chadwick is in many cases excellent. This consists of a wire hook attached to the button and embracing an elastic ring pessary. But I have found that in a large majority of cases the curved stem will be retained when a rigid or elastic one would be thrust from the uterine cavity. I will say that I do not advocate the indiscriminate use of the stem in all flexures. There are many which, as they produce no inconvenience, should not be treated at all. There are others which cannot be successfully treated in this way on account of complications. But there are left yet a large number which are best treated by the stem.

I have used the stem in at least fifty cases, and have had no alarming results. I have at present four patients who are wearing them; one of them has worn this pattern continuously during the last eighteen months, and has never suffered any inconvenience from it. She has an intra-mural fibroid which drags the fundus down into an antero-lateral position. The instrument has come away several times at the menstrual period, and she has always come immediately to have it replaced, as she cannot walk comfortably without it.

In a discussion on a paper read by Dr. Van de Warker before the American Gynecological Society, on the intra-uterine stem, Prof. Thomas, commenting upon the dangers attending the practice, remarked that it was not surprising that an organ like the uterus, which often resented the cautious introduction of the probe, the injection of a few drops of water, the retention of a slender roll of soft cotton and gradual dilatation by tents, should not tolerate the stem. But there are generally two sides to every question. It is true that in certain conditions of the lining membrane of the womb, the slightest irritations are violently resented; but these are not the conditions that exist in flexures that are chronic. Every practitioner who has made intra-uterine applications with the probe or applicator knows with what impunity the most violent caustics may be applied in chronic affections of the endometrium, such as nitrate of silver and nitric acid. An applicator, wrapped with cotton, may be dipped in one of these solutions and applied to the entire lining membrane of the womb and moved about freely in its cavity without producing any pain whatever. Such applications to a womb with normal nerves, not blunted in their sensibility by long-continued congestion, would produce not only exquisite pain, but most probably dangerous inflammation. When writers fail to make these distinctions they miss the mark widely.

In conclusion, I have only to say that the disre-

pute into which the intra-uterine stem has fallen, is largely owing to the fact that the proper principles which should govern their use have not been regarded. We need not be surprised when violent inflammations and intolerable irritations follow the hap-hazard use of the stem. We should only be surprised that no greater mischiefs occur under such methods.

A FUTURE FOR PULMONIC SURGERY.

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The coming triumph of antiseptics, if we may hazard a guess, lies in the perfection, or more properly the creation, of the science of pulmonary surgery. I say creation of this branch, because so little has the subject as yet been investigated, that we do not even know at present the most elementary facts in it to any certainty. So few experiments have been made, and so few cases reported, that practically a surgeon who now undertakes an operation upon the lungs has to base his hope of success upon theoretical considerations.

But that on theoretical grounds a large number of cases of diseased lungs could be benefited by surgical treatment were we once assured of its being safe and justifiable, no one will doubt. If, also, operations through the pleuræ are found to be safer than through the peritoneum, we may set out with the hope that a sufficient boldness will break down our present conservatism and lead us to triumphs more signal than those achieved in abdominal surgery in the last decade.

This subject is to be considered in three aspects, viz: From the *a priori* standpoint; *secondly*, from an experimental standpoint; the view obtained from laboratory experiment; and, *thirdly*, from a clinical standpoint so far as any cases are at hand for collation and comparison.

A priori then, in the first place, what is the effect of a puncture of a lung? We may thrust into its substance an aspirator or other small pointed instrument with great impunity, as we can in most other parts of the body. In case of aspirating the lungs for purposes of diagnosis, I have seen blood oozing from the lips, showing that both an artery and a bronchial tube of appreciable size had been wounded, and yet not the slightest reaction or local symptom followed. Gun-shot wounds of the lungs are fatal or otherwise not in proportion to the amount of tissue injured, but rather according to size of bleeding vessels, the injury to the adjacent organs and other accidental facts in the case. Shock and septicæmia are not such important factors as in wounds of abdominal organs and parieties. Considering the extreme liability of gun-shot wounds to injure some one or other of the numerous great vessels or vital organs of the thorax, it is surprising how many cases of wounded lungs recover.

A little boy in Chicago was shot through the right lung and spinal column not long ago, and although permanent paralysis of the lower extremity resulted, the local symptoms indicated nothing more serious than a temporary circumscribed pneumonia, which had disappeared before I had him under treatment for the paralysis. I saw the patient of another practitioner, brought here from Colorado, who had received the bullet from a carbine at short range near the right nipple. At first recovery was prompt, although the lung was penetrated. After reaching Chicago an abscess formed at the lower border of the right scapula. I was present at the time this was opened, and saw taken out of it a large conical bullet and a round piece of his woolen shirt, both of which had passed entirely through the right lung. The patient then rapidly recovered.

It might seem, therefore, from this and thousands of other cases which have been gathered in military statistics, that wounds of the lower and outer parts of the lungs, being further removed from danger of opening large branches of the pulmonary veins, are not *per se* a great source of danger to life. The reason of this I take to be the fact that the vital nervous connections of the lung tissue itself is not so intimate as is that of the intestinal canal and peritoneum. The thoracic organs, therefore, are more tolerant of interference than the abdominal. It may seem paradoxical to say that the pulmonary function is less closely bound up with the nervous sympathies than that of alimentation, seeing that the respiratory action is such a vital one. What I maintain is, however, that this function is less dependent upon the integrity of the visceral tissue itself than in most other organs. The terminal motor filaments which control respiration are not in the lung tissue at all, but in the muscles, either the diaphragm or those outside the chest altogether. The lungs themselves are supplied with few sensitive nerves, so that they seem rather passive, collapsible receptacles controlled by influences originating outside their own structure, responding to the needs of other organs rather than their own. A severe application of cold to the skin will cause more excitation of the lung, than a wound of its own structure. An extensive superficial burn will cause more embarrassment to respiration than the filling of one pleural cavity with air or pus. How different is this apparent tissue insensibility from the highly sensitive alimentary canal, where the slightest irritation causes severe reaction, and if long continued, lights up a fiery general inflammation or else causes shock and collapse!

These are some of the theoretical ideas which have occurred to me, and possibly to others, to explain why injuries to the lungs often produce so slight general effect, and which lead us to hope for immunity from risk in performing operations upon them. Of course we are not to forget, what, I need scarcely call attention to, that the comparative smallness of the area of a single pleura is an important factor in our calculations of the risk of opening it, and also the other obvious fact, which it seems superfluous to mention except for completeness, viz., that only one lung would be treated surgically at a time, so that respiration need not be impaired to a dangerous extent. That the pleuræ suppurate easily on being exposed to the air every one knows. In operating under antiseptic precautions, however, this is readily

to be avoided, as will be seen from the cases related. Even when suppuration does occur it is not markedly dangerous. Frequently patients with empyema are seen walking about and only semi-invalids. But this is theorizing; and now,

Secondly, for the experimental tests we must look chiefly abroad. In 1873, W. Koch, of Russia, began experiments to test the susceptibility of the lungs to various surgical procedures. He found that when the lung of a dog was pierced at a number of points at one sitting scarcely any pain was felt. There was no reaction, no impairment of respiration or digestion. On examination some weeks later scarcely any scar could be found. This reminds us of the fact stated by D. Hayes Agnew, that in post-mortem examinations the path of a bullet through the lungs is sometimes marked by no visible cicatrix. Injection of tincture of iodine into the lung tissue is also a proceeding free from danger, but this produces a limited consolidation and conversion of some portions of its substance into connective tisssue; no reaction follows; no pain is felt except when the chest wall is being punctured; there is not even a cough unless the fluid gets into a bronchial tube. In Koch's opinion, therefore, two things are demonstrated:

1. The lung is insensible (or indolent) to wounds, and there is little or no reaction. This, he thinks, explains why gangrenous parts of a lung sometimes separate and the patient recovers without any dangerous symptoms.

2. Portions of a lung may be destroyed by the injections mentioned, or by galvano-cautery, without killing the animal.

Of course, from these premises, the conclusion to be derived is, that in the human subject we may use such measures to destroy infecting foci of tubercular or other disease.

Gluck has gone farther than W. Koch, and attempted the actual opening of a pleura and extirpation of portions of a lung. One entire lung of a rabbit, in his first experiment, was ligated at its root and removed. Out of a considerable number of cases only two deaths resulted, and these were accidental, since the phrenic nerve was inadvertently destroyed. The rest recovered, and upon being killed and dissected later, little or no mischief was found to have occurred in the remaining lung, which was now doing double work. This, of course, was an important part of the experiment. One animal, after a year had passed, was still healthy.

Another series of experiments of similar character was made upon twenty rabbits and dogs; as in the last case, with antiseptic measures, and close compressions afterwards to assist in collapsing the chest wall. Of these a few only died, of pleurisy and pericarditis; the greater number recovered, and without dyspnœa. In these cases it was shown that secondary hæmorrhage does not follow the removal of a part or the whole of a lung, as none of the deaths were from this cause. There seems to be some liability to pleurisy upon the opposite side, for what reason it is not easy to say.

Prof. Schmid, however, has made still more practical experiments by resecting not the whole, but a part of a lung; the only extirpation at all likely to be performed upon the human subject, and not so simple an operation. Here the method of operating was as follows: The dog was washed, shaved over the chest wall, and anæsthetized by morphine and ether. A part of the fourth or fifth rib, he does not seem to care which, was resected and the pleura divided, so that a piece of the lung could be drawn out through the wide incision with fingers or forceps, it being now, of course collapsed. Then a sort of ligature *en masse*, or compressure, was employed by transfixing the lung with a needle and applying pressure, by means of a catgut ligature, below the place intended to be resected, in order to prevent bleeding from the part operated upon. Having thus rendered the part bloodless, a wedge-shaped piece of the lung was cut out, the large vessels and bronchi united, one by one the edges of the lung wound sutured with catgut, the temporary ligature removed and the lung returned to its cavity, after which the external wound was also sealed up.

Of eight dogs treated in this manner three recovered and five died. There was no hæmorrhage in any case. Empyema followed in four cases. It is assumed by Schmid that these could have been saved by more thorough antiseptics. This is not so evident to me, however, as suppurating pleural cavities occur where there has been no external wound. After such an operation air, highly septic, may enter from the divided cells or bronchi, as in cases of phthisis, where perforation occurs through the visceral pleura, setting up supperative pleuritis.

Schmid has practised the same operations upon the cadaver, without any very instructive results. He proposes that this operation be performed upon persons suffering with abscesses, and also tumors in the lungs; also upon a single isolated cavity of one lung. He also thinks that an infiltrated apex resulting from chronic bronchial catarrh in persons predisposed to phthisis, might sometimes be removed in time to check the disease.

At Dantzig, Block has made similar experiments on animals. He succeeded only in killing all his first animals, but later elaborated a more successful method of operating. The lung is laid bare by means of a horizontal incision, and drawn out; then ligated, cut off, and returned. Block believes that in cases of wounds to the lungs where there is hæmorrhage from large vessels, this method might be valuable, and like Schmid, thinks it could be employed in cases of tumors, gangrene, abscess, and to remove and infected apex.[1]

Thirdly, from a clinical standpoint we are to examine the practical results of lung operation so far as they have been attempted on human beings. The possibility of a man living with one lung, and the compensatory enlargement of the other, is shown by a case in *Virchow's Archivs*. A man whose lungs were supposed to be normal, died of apoplexy, and on *post-mortem* examination was found to have merely a rudimentary left lung of fœtal development and size. The left bronchus ended abruptly in a *cul-de-*

[1] I am indebted for the above to Dr. D' Ary's translations from the Russian journals.

sac, one inch from the bifurcation, and no air had ever entered the embryonic lung at all. But the left side of the chest was not so much collapsed or filled out by the compensatory enlargement of the right lung and mediastinum. The pericardium was indeed grown fast to the costal pleura as high as the third rib.

This may show, in a measure, what to expect to follow should we ever succeed in extirpating successfully an entire lung in man, as has been done in dogs. And it shows that the loss of the organ is not a dangerous element in the operation. Mosler's first case of operation consisted in draining a large cavity by open incision. It was not sucessful in saving the patient or in much prolonging his life. Another case, but meagrely reported, is that of a man 44 years of age who had a large pulmonary abscess in the lower lobe of the right side, which was opened and freely drained, whether with antiseptic precautions we are not informed. This patient was at first relieved, but subsequently died of suppurative pleurisy. A third recorded case is one of multiple septic abscesses in lower lobe of right lung. Upon opening and draining this abscess great improvement occurred in the general condition, and the hectic diarrhœa was checked, as was also the cough and foul expectoration. These returned, however, as the drainage was improperly cared for, and ultimately the patient died with pleuro-pneumonia of the other lung. An abortive effort has been made by Williams to puncture a supposed broncho-ectatic abscess. He afterwards made a second puncture, deriving a small amount of pus, which in his opinion was formed in consequence of the first incision.

Still another case on record is one of a so-called gangrenous cavity of the right lung—middle lobe—which was punctured from the posterior side at the angle of the scapula. The patient was almost in collapse at the time. Immediate improvement occurred, and the purulent expectoration ceased. After one week, this reappeared, and the patient was nearly as bad as before, dying upon the twelfth day.

If we examine the cause of death in these unsuccessful cases, we see that in one only was the fatal result caused by the complication usually most feared—pleurisy; but insufficient drainage and lack of boldness were apparently what rendered the operations futile. No drainage of so deep a cavity can be considered perfect without the insertion of a rubber tube of fair calibre, and even with this, unless antiseptic injections large in volume are employed, we are using only half the means in our power to check the progress of the disease. Some have feared, apparently, that injections, as they necessarily must enter the bronchial tubes, might so flood them as to produce asphyxia or too much irritation; but of this it may be said that the injection can reach only where the pus has already reached, and that a little excess or overflow of it will only be expectorated and do no harm. Of course, it should be made mild and unirritating, and its use begun cautiously. On its practical efficacy I will speak presently.

But all these cases of lung surgery have not been so unsuccessful as the earlier ones recorded. One patient, whose right lung contained a large abscess, daily discharging large quantities of fetid pus, was promptly relieved and improved by an incision in the sixth intercostal space, and although he died from other causes a month or two later, it should be regarded as a successful case. I am only able to get a meagre history of this case from D'Ary, who also describes the following:

A man, 44 years of age, who had suffered severely from dyspnœa and purulent expectoration, was found to have in the anterior surface of the right lung a cavity of considerable size, which was diagnosed as an echinococcus cyst. This was treated by opening the thoracic wall and freely excising the entire sac (under antiseptic measures, of course), and with complete recovery of the patient.

Drs. Hollister and Fenger have reported cases of abscess of the left lung treated by drainage and resulting in recovery.

One of the first instances of carbolized injections being used in the lung itself, was that of an old consumptive, who, by Dr. H. A. Johnson, was discovered an immense collection of pus in the left pleural cavity.[1] After draining away just four quarts from the pleura, it was found that a tuberculous cavity had emptied itself into the pleural sac, so that after a certain amount of warm carbolized water had been thrown in it would rise in the throat and could be tasted. This occurred regularly at each dressing, and caused no inconvenience. The case is of no special interest except as showing the harmlessness of throwing the solutions into the lungs and bronchi themselves.

The case of Henry Cordes, 28 years of age, who is now still under my observation, is an interesting one as being a case of real abscess of the lung relieved and practically cured by surgical operation and after-treatment. In July, 1882, this patient was affected with fever and night sweats, followed not long afterward by muco-purulent expectoration in constantly increasing quantities. Dr. N. S. Davis, into whose care he finally came, was convinced that he had located a cavern near the posterior wall of the chest on the left side, and considered it not of tuberculous origin, in which the sequel shows that he was correct. Dr. Davis placed him under the care of Dr. E. Andrews. As the patient was rapidly sinking into hectic, and was expectorating a pint or more of sputa a day, it was thought necessary to run the risks of laying open the abscess from the back, which was the seat of most pain, and where we hoped that adhesions had already formed to the chest wall.

Upon exploring this point with the aspirator, however, nothing but blood was obtained. Between the fourth and fifth ribs another puncture was made more anteriorly, with the same result. In the anterior chest wall, however, pus was found, and an incision freely made down to it without exsecting the rib. From this opening a large amount of fetid pus escaped, and eight inches of a large flanged rubber drainage tube was inserted. A few ounces of very dilute warm carbolized water were injected, and the

[1] This man had been declared by a Homœopath, in his diagnosis, to have something wrong with his heart, and there was something "wrong;" for it was crowded two or three inches away from the point over which he had been placing his stethoscope.

patient put to bed, where in the course of the night another pint or more of pus was discharged from the tube. The patient now recuperated astonishingly from the disease which had brought him so low, the sputa at once ceased to be expectorated, and the discharge from the tube became almost odorless. He sat up on the second day and ate ravenously. His night sweats ceased, and he was no longer short of breath. About a pint of carbolized water was thrown into his abscess at each dressing, and part of this always made its way into the throat; not causing him inconvenience, but being tasted and spit out, sometimes mixed with pus and sometimes nearly clear, and easily recognized by the odor in his breath. He had no dread of this injection, but said it seemed to "clear his throat," In somewhat less than a month the patient was able to leave the hospital, and visit my office daily, the abscess having so far collapsed that little remained but a small sinus communicating with a bronchial tube. For months the condition remained the same. There was no cough nor pain in the chest. An injection forced into the tube came up into the throat without causing more than a momentary cough.

Before this sinus entirely closed, which was almost a year after the operation, the patient had regained his former strength and more than his former weight. He is now strong and ruddy, without any symptoms of pulmonary disease, and with only a deep scar and a slight area of dulness to indicate the location of the abscess.

The results from so meagre a list of cases are wanting in conclusiveness, but by no means in encouragement; and we may be justified in taking hopeful ground as to the future of pulmonic surgery.

6 East Sixteenth St., Chicago, Aug. 20, 1885.

EPIDEMIC CHOLERA; ITS SYMPTOMS, PATHOLOGY AND TREATMENT.

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Sacred and profane history present graphic details of pestilences or epidemic diseases. In King David's reign, a pestilence destroyed 70,000 men—a calamity which the Bible asserts to have been a judgment of the Almighty to punish a nation for the violation of Divine and physical laws. Thucydides has given an eloquent description of the plague which devastated Attica and the City of Athens during the Peloponnesian War. A pestilence which prevailed between the years 1345 and 1350 is said to have been so deadly that two-thirds of the human race perished. In the city of London 50,000 dead bodies were buried in one graveyard. It was called the "Black Death."

The mortality of epidemic cholera has never attained to the high figures of such precedents, doubtless for the reason of its modern origin, and because Christian civilization has contributed to mitigate the ills of human life, and medical art is better able to prevent and to cure disease. Cholera, from χυλή and ῥέω, two Greek words signifying literally a flow of bile, is a misnomer, since the disease does not consist in a morbid and excessive discharge of bile. Dr. Johnson, who treated the cholera of tropical climates, declares that "in all cases at first there is a diminution, and in many cases a total suppression of the biliary secretion, and the watery discharges continue until the disease takes a favorable turn;" adding that in all fatal cases there is an absence of bile in the stools.

This disease had its origin in India, along the Ganges, in 1817. In 1820 it extended to China; in 1823 to Astracan, on the Volga; in 1829 to Russia; in 1831 to Mecca, to Cairo and Alexandria, and subsequently, in 1832, to London, Paris, and to the United States. The medical authorities at Calcutta attributed, as causes of the disease, extreme heat and drought, followed by heavy rains, and the use of unwholesome food, such as melons, cucumbers and raw vegetables. The serfs of Russia, who lived in low, damp and filthy houses, and who habitually indulge in intoxicants, were the greatest sufferers; the same remark was true as to the lower classes in Europe and America. The troops of large armies, as well as the pilgrims who visited Mecca and to worship Juggernaut, overcome by long marches and journeys, readily contracted the disease, many dying from fear.

Both German and English physicians are of the opinion that the epidemic cholera of that period was of spontaneous origin and not imported. It was then denied to be transmissible and to be contagious, since neither quarantine regulations or cordons availed to prevent its introduction to neighboring localities. The removal of the sick to suitable hospitals was urged and adopted as a precautionary measure to ensure a better chance of life to the patients, as well as physicians and nurses. As an endemic the disease the disease is a common malady, since cases of sporadic cholera constantly occur in warm climates, due to errors in diet and a stomach overloaded with acrid and undigested food. Indeed, some authors are of the opinion that its epidemic character does not invest it with any speeific characteristics save in degree, not in kind. During the latter part of the summer of 1854, two cases presenting all the symptoms of malignant cholera occurred in the writer's practice, and he is able to recall, also, another which occurred at the Norfolk Navy Yard in 1857, in the person of Lieut. Rob't B. Pegram.

Mr. Lizars, of Edinburgh, says of the disease which prevailed in that city in 1831: "It can hardly be considered to be contagious, since dissections several hours after death were performed without propagating cholera, which appeared simultaneously all over the suburbs of the city, without any communication of the subjects of its attacks." That it is infectious is more probable. The hypothesis first advanced by Sir Henry Holland of insect life as a cause of the disease, is now fully confirmed by the brilliant discoveries of Dr. Koch, who asserts that the infection is not conveyed by the air, but by the absorption of the microbes, comma-bacilli, in eating, thus introducing them into the digestive canal. This is done both by means of drinks and of solid food. Hence he advises, where cholera prevails, the closure of the wells, and that people drink water which has been

boiled, or comes from points distant from the infected centres, or waters slightly mineral; and that food should be cooked at a high temperature. He adds, "The microbe dies when exposed to a high, and especially a dry temperature. It is solely transmissible by direct dejections or articles soiled by them; the first precaution, therefore, is to expose the linen of patients to dry heat or carbolic acid, somewhat strong, for the microbe cannot live in strong solutions of carbolic acid or in great dryness."

The premonitory symptoms of cholera are præcordial distress, weakness, looseness of the bowels attended with griping, followed by nausea, vomiting, diarrhœa, and headache. The attack usually begins at night or after exposure to a hot sun, fatigue, and free indulgence in meats and drinks. A lull occurs after the bowels appear to have been emptied of their fæcal and solid contents; the skin is cold and corrugated, and of a livid hue; the eyes are sunken; the pulse from the first is small and quick; the blood, if drawn, is dark-colored and flows slowly; the fluid matters ejected from the stomach and bowels usually contain no bile and have no fæcal odor, and consist of a turbid whitish liquid, resembling water in which rice has been boiled. Favorable symptoms, during the first stage, are marked by cessation of vomiting and purging, and a reappearance of bile in the dejecta. Death may occur within the first twenty-four hours.

The occurrence of the second, or algid stage of the disease, is marked by an aggravation of all of the above-mentioned symptoms. The patient has a sharp and anxious countenance, an expression pathognomonic to the eye of an expert; the pulse becomes small and feeble; the skin is blue and cold to the touch, and the fingers are shrivelled and sodden like those of a washerwoman. The voice is unnatural, and to add to the intense suffering, there is dysuria, and cramps of the muscles of the thighs, legs, and abdomen. Dr. Cragie says: "The cramps were observed chiefly in the gastrocnemius and soleus of the legs, in the biceps flexor of the thigh, in the recti of the abdomen and the adductors of the thigh; the extensor muscles were not affected." Amid all this mortal conflict in the body, the mind and senses remain undisturbed almost to the latest hour of life, though the victim seems totally unconscious of the rapid dissolution which threatens him. "Walking cases" have been noticed, as occur during an epidemic of yellow fever. The patient is able to walk about, fails to apply for medical aid and dies suddenly.

It is important to remember that the first indications of an attack of cholera are twitchings of the fingers and toes, along with immediate sinking of the circulation. The patient sometimes lingers in a pulseless state for a long time before death actually occurs. Hence the danger of too early burial during the prevalence of epidemic cholera, but which may be avoided if there has been observed an increase of temperature of the body, confined to the head and trunk, taking place just before death. As occurs in smallpox, typhoid and puerperal fever, there is a peculiar fetid odor or exhalation from the skin and breath of a cholera patient. When death does occur, it is sometimes preceded by violent spasms of the abdomen and extremities, deadly pallor, shrunken features and icy coldness of the entire body, thus constituting an example of spasmodic or Asiatic cholera.

Pathology.—In this connection, it may be premised that the late Professor W. E. Horner found that the lesions exhibited by the post mortem examination of the visceræ of children who had died from cholera infantum, especially the mucous membrane of the alimentary canal, presented often "an abnormal paleness, and the liver is more or less congested, and of a light yellow or mottled color. The follicles are enlarged, resembling in appearance a sprinkling of white sand upon the surface of the mucous membrane. In a patient affected with epidemic cholera, the blood found in the lungs is always black, the liver is commonly gorged with blood, the bladder empty and much contracted, and the intestinal track presents a blanched appearance, thickened, denuded, and sometimes collapsed. A fluid in large quantities is effused in the lateral ventricles and between the convolutions of the brain, and in the membranes of the vertebral columns and spinal cord." Dr. Kier, of Moscow, in his dissections, discovered signs of subacute inflammation both in the stomach and intestines. As many exponents of modern medical science claim that the cholera bacilli are the source as well as the cause of the disease, the true pathology of cholera yet remains an open question.

Treatment.—With the loss of a few hours and the application of appropriate remedies the chances of recovery are lessened. Annesley, who treated hundreds of cases of epidemic cholera in India, says: "If taken at its commencement it is as manageable as any other acute disease, while if unchecked even the loss of an hour may occasion the loss of life." Absolute rest in bed and absolute diet even to starvation should be enforced; the first rule ensuring freedom from business worry and company, and the second the best chance to administer suitable remedies. For the relief of the stomach an emetic either of ipecac or a solution of common salt, or even tepid water, and subsequently the following prescription should be given:

℞

Hydrarg: chlorid: nite ʒ
Morphiæ sulph., gr. iv.
Bismuth nitrat., ʒss.

M. Divide into 12 powders; one every two hours.

When the vomiting and purging are relieved, sulphuric acid gtts. x, in a little sweetened water, every half hour, will contribute to restore the normal secretions of the intestines. This acid is also a valuable germicide. Sinapisms should be applied over the epigastrium and on the inside of the thighs and arms. For the relief of the violent cramps and congestion of the lungs and head, when the pulse is full and the temperature not reduced, a bath of hot water should be given, followed by venesection to the extent of twenty or thirty ounces, and the application of leeches when the pain is felt in the epigastrium. This treatment is often sufficient to cut short the disease. As regards the use of the lancet, a full bleeding from the arm in cases of cramp, colic, and in cases of overwhelming shock to the nervous centres and cir

culatory system, often contributes to the saving of life. During the prevalence of epidemic cholera in 1832, Mr. Bell ("Treatise on Cholera") commended the value of venesection except in the intemperate. Drs. Pennock and Gerhard ("Observations on the Cholera") state when there is febrile excitement, and local pain on pressure, venesection and leeches may be resorted to, with a warm bath. This is followed by profuse perspiration. They add that the medicine most relied upon was opium; mercurials were not employed in the first stage. When the stomach would not retain the anodyne sub-nitrate of bismuth, gr. ii–iv, every two hours, would often relieve nausea and vomiting. "This remedy must be discontinued as soon as the vomiting and spasms cease." The beverages allowed were burnt toast water, iced lemonade, diluted nitric acid fifty drops added to a pint of sweetened water, tea, coffee, and fresh milk. Dr. Sturm, a Polish physician, recommended the use of warm, nearly hot, water in the quantity of a glass full every half hour.

Treatment of the Second, or Algid, Stage.—The physician is sometimes called for the first time to prescribe for the patient during this stage of cholera. As stated already, in this, as in the first stage, it is all important for the patient to be kept in bed and on a restricted diet; and for the physician, for the sake of his patient and his own reputation, to decide upon a course of treatment most approved and practical. The life of the patient depends on arousing the sensibility and exciting the action of the cutaneous nerves; and to accomplish this he should be immersed in a hot bath, 100° F.; this was found to be of undoubted value in India and in Europe during the epidemic of 1834. The writer has had patients restored from a state of complete asphyxia by being kept in a bath of high temperature for an hour and more. A mild emetic may be necessary; either ipecachuanna, sulphate of zinc, or a solution of common salt and draughts of warm water, to clear the stomach, frequently loaded with undigested food. After this treatment, calomel and opium should be given in minute doses to restore the natural functions of the intestines and liver.

Recurring again to Drs. Pennock and Gerhard's "Observations on the Cholera," they state that "during the algid stage of the disease depletion becomes harmful, and especially so if the pulse be much depressed; frictions with warm liniments applied from the extremities towards the central organs, sinapisms to the extremities, and a liniment of ammonia and turpentine applied by flannels along the spine, and opiate injections, alone availed to afford relief. If the latter remedy is rejected by the bowels it must be abandoned, because of the danger of adding to the internal congestions and of increasing the existing feebleness."

Alcoholic stimulants, powerful tonics and full diet in this, as in all stages of cholera, are dangerous expedients. When the dysuria is relieved, and coincident with it there is free and full discharge from the bowels, the occurrence marks always a favorable turn in the disease.

In conclusion, a word may be added with reference to prophylaxcis during an epidemic of cholera. As fear is a powerful depressing passion, it becomes the physician to encourage, on the part of his patients and the community, a cheerful and hopeful state of mind. If the religious sentiment can be invoked, this disposition will be greatly strengthened. Dr. G. B. Thornton, President of the Board of Health of Memphis, commends the use of a cup of strong coffee or some article of food to be taken before visiting the sick. Any imprudence of diet may prove disastrous, as occurred within the writer's recollection to the late Dr. White, the resident physician of the Pennsylvania Hospital, in 1854. Dr. White, on his way to the Philadelphia Almshouse, unfortunately stopped at a restaurant and ate heartily of ice cream, subsequently visiting and prescribing for a number of cases of cholera. He contracted the disease and died in a few days.

The waste, as well as articles of clothing of a cholera patient, should be carefully disinfected. The disinfectants in common use are so well known that it is needless to give a detailed list.

MEDICAL PROGRESS.

MEDICINE.

IODOFORM IN GONORRHŒA.—DR. A OGER, in discussing the use of iodoform in gonorrhœa, refers to its use in solution of glycerine by M Campana in acute and chronic conditions of the disease. The best results are attained, however, when it is applied to the diseased parts in a very fine powder. In this form Timmermans has obtained excellent results. Iodoform being insoluble in water, he suspends, in two and one-half ounces of water, sixty grains of the drug rendered impalpable by previous solution in sulphuric ether. The mixture being well shaken, a small glass syringe is filled and injection practised. As it is important that the iodoform come in direct contact with the inflamed mucous membrane, the urethra should be thoroughly cleansed by urination immediately before the injection is made. The patient should lie on his back and the injection be made in a direction nearly vertical, gravity thus causing the powder to seek the lower part of the syringe, and thus favoring its introduction into the urethra when pressure is made upon the piston. When the syringe has been emptied, it should be gently withdrawn, and while the meatus is compressed by one hand, with the other careful pressure is made so that every part of the passage is reached by the fluid, and the iodoform thus deposited upou the mucous membrane. After four or five minutes the fluid is permitted to escape gradually, in order to avoid the ejection of the iodoform. The operation should be repeated at least three times a day.

Whatever is the stage of the disease a prompt result is certain, as is shown by diminution of pain—the iodoform evidently acting as an anæsthetic to the inflamed parts. The character of the pus is also changed, and its abundance diminished. Cure is promptly obtained; in one resulting in five days.—*Journal de Médecine de Paris*, July 19, 1885.

SURGERY.

STRANGULATED UMBILICAL HERNIA—REMOVAL OF SIX INCHES OF SMALL INTESTINE—RECOVERY.—MR. W. H. FOLKER reports this case in the *British Medical Journal*, of August 15, 1885. The patient was a married woman, æt. 47 years. About 12 years ago she sustained an umbilical hernia from a fall.

On February 25, 1884, had a return of the symptoms of strangulation, and was admitted to the North Staffordshire Infirmary. On admission, the patient, a corpulent woman appeared to be in a most exhausted condition, suffering from almost constant vomiting of a fæcal character. She had a large umbilical hernia, evidently not only strangulated, but gangrenous, for even the skin covering it was quite black, and smelt most offensively.

Immediate operation was resorted to, the patient being cautiously etherised. An incision was made, of the length of the tumor, opening the sac, when a large piece of bowel was found to be quite black, the contents having escaped into the sac through an opening about an inch and a half in length; the omentum and everything within the incision was gangrenous. The skin and everything that was sloughing, except the bowel, was first removed, and the cavity well washed out with carbolic lotion, and then the bowel (which was small intestine) was drawn well forward till a sound portion was reached at each side; the inner halves of each portion were cut through and carefully stitched together, with their peritoneal surfaces in contact, the outer half of each piece of bowel affording a secure hold whilst this was being done; these were then removed, and the cut edges secured to the skin, forming an artificial anus. The edges of the skin below were brought together by two harelip-pins, and the parts dressed with oiled lint (carbolic oil 1 in 20), covered with absorbent wool, a wide flannel roller being applied over all. She was ordered to have the urine drawn regularly with the catheter, and to take ice and soda-water.

February 29th (the day following the operation). The temperature was normal. There was fæcal discharge from the bowel-opening. The patient was looking better, although vomiting, with a fæcal odor, still continued, and she had some little pain. A subcutaneous injection of morphia was given, which relieved the pain and checked the sickness. The skin over the abdomen was covered with oxide of zinc ointment spread on lint.

March 1st. The fæcal discharge continued, and the temperature remained normal, although the sickness still persisted, but without any odor. Hypodermic injections and dressing were repeated.

March 2nd. The upper pin was removed, as it was threatening to cut through, the parts being very tense. The sickness had nearly ceased. Temperature 100.4°. The treatment was continued.

March 6th. She was doing well; the temperature was normal; there was no sickness. As the external parts were giving way, the last pin was removed, which caused the skin-wound to gape very much, though the edges of the intestines remained perfectly adherent to each other and to the abdominal wall. Strapping was used to support and to bring the parts as much together as possible. The use of the catheter was discontinued.

March 18th. The edges of the wound, looking somewhat undermined, were packed with iodoform-gauze. This was ordered to be repeated as often as necessary; for, from the constant welling up of fæcal matter, the patient required dressing several times a day. This afternoon, an attack of sickness came on, which lasted from 3 o'clock till 6, but was stopped by a draught of morphia and bismuth.

April 9th. The patient to-day said that she thought she was pregnant, as she discovered milk in her breasts. She was, therefore, carefully examined, and such was found to be the case.

April 22nd. I passed a whalebone sound, and left it in for about half an hour. Pains came on, but passed off again about midnight. The next day, some ergot of rye was given, and early the following morning the fœtus came away.

May 10th. The patient having now recovered from all effects of the abortion, it was determined to try to close the artificial opening in the bowel; accordingly, at 2 P. M., a blade of Dupuytren's enterotome was introduced into each opening of the bowel, and brought very lightly together. At 2.45 sickness came on; but, under the influence of a morphia draught, ceased towards evening.

May 13th. There was no pain or sickness. I tightened the enterotome a little more, having screwed it up a little on the 10th. Flatus passed *per anum* to-day for the first time.

May 15th. I screwed up the enterotome as tightly as it would go. This was followed in the evening by very sharp pain, which was entirely relieved by morphia.

May 21st. The enterotome came away to-day (that is on the eleventh day), Flatus passed in abundance, but no fæcal matter yet, *per anum*.

May 25th. The temperature rose to 101.4°, with some pricking pain and general uneasiness. An enema of soap and water was administered, which brought away some hardened fæces and flatus, and relieved all the other symptoms.

May 27th. In the hope of restoring the continuity of the intestinal passage, and of preventing the fæces from being discharged through the artificial opening, a piece of stout India-rubber tubing, three-fourths of an inch in diameter, and about 5 inches in length, was introduced, one end into the ascending, the other into the descending portion of the bowel. It was secured at the centre by a strong piece of silk, the ends of which were left hanging from the opening.

May 28th. The tube was forced out of the wound this morning. Dr. Hatton reintroduced it, but it was again forced out at 9 P. M.

May 29th. The tube would not remain in; it was, therefore discontinued.

May 31st. I reapplied the enterotome to-day; this was followed as on the former occasion, by pain and sickness, which was relieved by morphia.

June 9th. The enterotome came away (the tenth day).

June 12th. The edges of the opening were brought together by a broad piece of plaster, but without effect.

June 18th. Hitherto the patient had had no solid food, and complained of feeling hungry; the diet was, therefore, changed to ordinary solid food.

June 23rd. An enema of soap and olive-oil brought away a fairly natural motion. This was repeated on the 26th, when the bowels were freely relieved. They were moved again by the natural effort, an hour afterwards, and again a second time in two hours.

July 1st. I refreshed the edges of the external opening, and brought the parts closely and accurately together, with five deep, and three superficial sutures. Solid food was ordered to be discontinued for a few days.

July 2nd. Fæcal matter was forced through the wound, and in a day all broke down, the stitches were removed, and the discharge was as free as before.

July 16th. She got up for the first time; the discharge was the same.

July 29th. On making a digital examination to-day, both ascending and descending portions of bowel were found to be quite free, and of uniform calibre, the slight prominence, the remains of the spur, could only just be felt by the extremity of the forefinger when introduced to its full length. An enema produced an ordinary motion. Another plastic operation was therefore performed, but with no better result, for in two days the discharge began to force its way through between the stitches.

Enemata were now administered every other day, and a fortnight afterwards the edge of the wound was cauterised, in the hope of causing it to contract. This was continued for some time, the application being varied from time to time between nitrate of silver fuming nitric acid, and the thermo-cautery.

September 22nd. She had a natural motion for the first time to-day, and again on the 29th; but as this did not occur again, enemata were regularly administered, and always acted copiously; but still fæcal matter continued to well up through the wound, although it was reduced to the size of a ten-cent piece.

At the end of October, wishing to go home, she was discharged at her own request, all the various attempts to close the wound having failed. She has presented herself from time to time at the infirmary, but remains exactly in the same state as when she left. The remains of the spur could be felt with a probe at about an inch and three-quarters from the surface.

This is not a case commonly met with; and, as the discussion may perhaps bring forth different opinions as to the treatment adopted, I would first say that, six inches of intestine having sloughed and burst, its entire removal was imperatively required. Then came the question as to how the remainder was to be treated. The sloughing was so extensive, that I dared not rest content with opening the bowel and leaving it to form an artificial anus by adhesion, as has occasionally been done in inguinal hernia when the bowel was not fit to be returned; and for the same reason I was afraid to attempt to unite the two ends of the bowel together and return it, and therefore decided upon the method of treatment which I have described.

When the patient was found to be pregnant, the question of allowing her to proceed to the full time gave rise to some little doubt. If pregnancy had been allowed to go on, it would not have been prudent to have attempted Dupuytren's operation, as it might have caused miscarriage whilst the clamp was on the bowel, and possibly have been fatal; and danger was also to be apprehended from the extreme distension of pregnancy, and the straining pains attending it; and, lastly, there was the great delay. All this was fully explained to the patient and her husband, and consent was at once given.

The application of the enterotome, on both occasions, only caused a little nausea and sickness, which was easily controlled by a dose of morphia, until it was finally screwed up tightly, when some sharp pain was experienced, but was easily relieved. The instrument came away on the tenth and eleventh days, which, I believe, is about the average time.

The chief point, however, on which I am anxious to hear the opinion of others is, why does the opening not close? and wherein have I been in fault in my attempts to produce its closure? There must be a clear passage in the bowel, both ascending and descending, of at least an inch in diameter, as was proved by the introduction of the three-quarter-inch India-rubber tube; the lower level of the bowel is nearly two inches from the surface. There seems no impediment in the bowel, or why should fæcal matter pass as it does when an enema is given? and why should it force through a small narrow opening in the upper part, when there is a free and much larger channel on a lower level?—[The report of this case is taken at length, and with the risk of being somewhat tedious, on account of its unusual character, and great surgical interest.]—*British Medical Journal*, Aug. 15, 1885.

DIGITAL TENOTOMY IN PIANISTS.—MR. NOBLE SMITH, in speaking of this operation, says that the operation as practised by Dr. Forbes, of Philadelphia, promises to be one of great benefit to accomplished pianists, as well as to learners. In making some dissections on the dead body, with a view to determine the usual position of the slips of tendon which limit the action of the extensor of the ring-finger, I found that these vary very much in different cases; so that it becomes necessary to carefully determine their position by the eye and finger, during movement of the extensor-tendon, in each case before operation. I have just succeeded in freeing the ring-finger of the right hand of an accomplished lady pianist, without causing her much more pain than is felt from the prick of a needle. Before operation she was able to raise the finger only five-eights of an inch beyond the others. Directly after the operation, she could raise the finger easily to one-and-a-half inch, without the least feeling of loss of control over its action. The division was, of course, made subcutaneously, so that only a minute wound was left in the skin, one-eighth of an inch in length.—[Cocaine has been recently used in an experimental operation of this kind, and with perfect success.]—*British Medical Journal*, July 4, 1885.

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THE PROGRESS OF PHARMACOLOGY AND THERAPEUTICS.

Such is the title of the very interesting and suggestive Address in the Section of Pharmacology and Therapeutics, delivered by PROFESSOR THOMAS R. FRASER, of Edinburgh, at the late meeting of the British Medical Association. The address is the more interesting from the fact that it is the first that has been delivered in this Section of the British Association, as the Section was only founded at the annual meeting in 1884. And the selection of Prof. Fraser as the first Chairman of the Section was most suitable in view of the great facilities for pharmacological work in the University of Edinburgh; facilities which are scarcely excelled by those of any institution on the Continent.

Professor Fraser commenced by referring to the fact that in the branches which form the subject of his address we have not made so much progress as in other departments. That this is true everyone will admit. But may it not be due to another fact, that special work in this department carries the investigator somewhat out of the usual line of work which engages the physician? Is it not more true of this than of any other branch of medicine that the worker must have a special training, and a special aptitude for such work? And is it not due also to a third fact, that in order to accomplish anything in this branch the worker must, from the very start, be thoroughly familiar with chemical work? Again, there is another fact of no less importance: practical results in pharmacology must depend in great part on our advancement in physiological pathology; and it must be admitted that this has not kept pace with our knowledge of pathological anatomy. "To the therapeutist, and, therefore, to the medical practitioner, the progress of physiological pathology is of as great interest as that of pharmacology. In the meantime, neither has advanced further than the threshold of its possible development, and, naturally, the benefits which have been conferred by them upon therapeutics are not as yet conspicuously apparent. Their development is, for the most part, wanting even in that equality and symmetry which is required for practical application. In only a few instances can we find that each has made sufficient progress to benefit therapeutics; as, for example, in some of the applications of the pharmacological action of the nitrites, or of digitalis, or of several diuretics to the treatment of disease."

He utters a word of warning against hasty deductions and generalizations: "Patience must also be exercised to enable us to avoid the great danger to therapeutics, a desire to too hastily gain results, which is constantly besetting us. It has manifested itself in all ages, in a search after specifics—so-called—a search which tends to distract from solid work in pharmacology, where the results are certain to be more valuable and more conducive to the ultimate benefit of therapeutics. . . . My remarks have indicated that I regard pharmacology as one of the means by which the great aim of medicine—the healing of disease—is to be gained. It is an essential means, and it therefore becomes of importance to arrive at some clear conception of the method by which the investigation of pharmacological problems is best to be effected."

As might be supposed, the two methods which he thinks open to us are: The study of the effects produced by remedies administered in disease; and the study of the effects produced when the drug is administered to the healthy animal, or when physiological pathology is applied to pharmacology. As regards the first method, Dr. Fraser says that "its results are, unfortunately, too apparently unsatisfactory to require any elaborate criticism. Even when the problems are of the simplest description, fallacies that are destructive to the scientific value of the results can scarcely be avoided." As an example, sleeplessness and pyrexia are but manifestations of many kinds of departure from physiological conditions; they are only symptoms, which may be due to many different pathological processes, and their precise nature has yet to be defined by physiological pathology. It is quite improbable, even on *a priori* principles, that "each of the abnormal processes leading to sleeplessness, or to pyrexia, will be restorable to their normal state by every substance

that is capable of producing sleep, or by every substance that is capable of reducing temperature." A better example of the insufficiency of the method of simple observation in disease could scarcely be given. But when the nature of the pathological processes has been defined the pharmacologist should, and in all probability will, be able to produce the substance that will antagonize the pathological process, and restore the perverted function to a more or less completely healthy state.

It is knowledge of this kind that Dr. Fraser understands to be the aim of pharmacology, and to obtain it, those who work in this department must continue the method of research that have founded the science of pharmacology. It is true that even this is a method of observation; but its results are much more certain than when the observations are made on man, especially if he be suffering from disease. "I cannot too emphatically state that it is only by this method that we can ever hope to utilise thoroughly the means so abundantly placed at our disposal for placing therapeutics in a satisfactory position. . . . If it be a worthy object to aim at lessening of suffering, the prolonging of human life, the prevention of premature death, then I say the study of pharmacology by experimental investigation not only requires no apology, but the neglect of this duty imposes a heavy responsibility upon those who place obstacles in the way of pharmacological research." Yet this responsibility has been assumed by every one who is in sympathy with antivivisectionists.

The last point made by Dr. Fraser, and a very important one, is that it is time that the intimate association which has so long existed between pharmacology on the one side, and pharmacy and the physical characters of remedial substances on the other should be severed. This separation has been effected in several of the Scottish universities, in the school at Manchester, and in two or three of the London schools. In this way pharmacology may be taught at a period when it can be properly appreciated by the student. "It deals with perversions of functions produced by active substances, and therefore requires some acquaintance with physiology before instruction in it can be intelligently followed." And in order to further the study of this subject, Dr. Fraser suggests that laboratories for investigation should be established in every important medical centre. "Every argument that can be urged in favor of laboratories for physiological or chemical research can be urged in favor of laboratories for investigating the action of remedies; and it is to be hoped, that this want . . . . will be speedily removed."

MR. LAWSON TAIT ON THE MODERN TREATMENT OF UTERINE MYOMA.

MR. LAWSON TAIT'S paper, entitled "The Modern Treatment of Uterine Myoma," read in the Section of Obstetric Medicine at the recent annual meeting of the British Medical Association in Cardiff, is interesting and suggestive.

The first point of Mr. Tait's paper was: "To show that removal of the uterine appendages for myoma, when properly performed, is not a fatal operation, but one with hardly any mortality at all, even when the tumors are large, and when the patients are brought almost to death's door by hæmorrhage." In support of this proposition, he adduces fifty-eight operations, since January, 1884, without a single death. His entire modern experience gives a series of one hundred and eight cases, with two deaths, and he states his belief that the operation, in experienced hands, has a real mortality of not more than one per cent.

The second point: "That the results of the operation are satisfactory and permanent, so that we may with confidence recommend it for the relief of suffering and the saving of life," he endeavors to prove by a succinct summary of statements, relative to fifty cases, elicited from the practitioner who sent the case, his own personal observation, or the patient herself. Of the fifty cases, failure was observed in only two instances. One of these cases proved subsequently to be cancer of the body of the uterus. Menstruation was not arrested in the other case, and the tumor continued to grow. Two patients have been admitted to insane asylums, although in neither case could the operation be held accountable for the insanity.

Mr. Tait accordingly concludes that the statements, made in his paper on his first thirty cases, read May 24, 1881, before the Royal Medical and Chirurgical Society, and published in the *American Journal of the Medical Sciences*, January, 1882, have been abundantly sustained. Two of the conclusions in this paper have been substantially quoted. The third was: "That the whole subject was one well worthy of more study, and should not be made the subject of premature and hostile conclusions." It is seldom that one reads such a concise array of arguments, arranged in logical order, expressed in vigorous English, as constitutes Mr. Tait's paper. The essay reads like the demonstration of a theorem in Euclid. It is necessary, however, to bear in mind:

I. That the operation is usually difficult, sometimes impossible. Attention has been directed to this subject in an able editorial in the *British Medical Journal*, August 15, 1885.

II. It is not always possible to remove all the ovarian tissue on both sides. Unless this be done, the operation usually fails of its object.

III. After removal of the appendages, the patient must wait a long time for the subsidence of the tumor. Sometimes the tumor remains unchanged, and exercises its untoward influences in the way of mechanical pressure, and a certain ill-defined pernicious constitutional effect.

IV. No living operator has approximated the success of Mr. Lawson Tait.

V. A limited number of cases recover completely under judicious medication.

VI. In a certain proportion of cases, the tumor disappears spontaneously, or remains quiescent.

VII. Finally, after removal of all ovarian tissue, the tumor may continue to grow.

THE BACTERIA OF SYPHILIS IN SMEGMA PREPUTII.

During the past year Lustgarten has described a form of bacillus which he regards as pathogenic of syphilis. It is about the size and in general appearance similar to the bacillus of tuberculosis. He found it in the secretions from ulcers and in sections of hard chancre and mucus patches. Lustgarten has also recommended methods of coloration which he believes to be absolutely characteristic.

In the *Bulletin de l' Académie de Médecine*, for August 4, is a résumé, by Prof. Cornil, of the work of MM. ALVAREZ and TAVEL, who undertook, at his suggestion, a series of control observations upon those of Lustgarten, the results of which are of much interest. They found a bacillus, in various normal secretions of the organism, which in form and color-reactions appears to be identical with Lustgarten's bacillus of syphilis. They discovered the bacillus 33 times in 55 cases of hard chancre and other syphilides examined. They found what appeared to be the same micro-organisms in other non-syphilitic secretions from lesions of the genital organs; and also in many cases of smegma preputialis and vulveris. It was rarely found except about the genital organs or edge of the anus, though it was sought for in the mouth, nose, ears, on the head, feet, and in folds of the skin, but unavailingly. They suggest, therefore, that the bacillus of Lustgarten is this which they find in normal smegma, and that the microbes simply penetrate and become imbedded in syphilitic as well as other inflammatory tissues and secretions in the region of the genital organs.

The bacillus observed by Alvarez and Tavel presents in form and many of its color-reactions a strong resemblance to the bacillus of tuberculosis. It can be distinguished from the bacillus of tuberculosis by its more slender proportions and less granular appearance. If stained with methyl violet and decolorized with dilute nitric acid and washed with alcohol the bacilli are almost or quite completely decolorized. If examined before washing in alcohol they appear slightly stained, showing that they do not well resist the decolorizing effects of alcohol. Contrary to the observations of Lustgarten the microbe can be stained by Ehrlich's method with fuchsin, and resists the decolorizing powers of acid.

The presence of this bacillus, and its very great similarity to the bacillus of tuberculosis, must be borne in mind by those examining urine, fæcal matter, and suspected tubercular lesions of the genital organs and anus, for the latter microbe. A diagnosis can only be made by employing, with vigorous exactitude, the differential processes of coloration.

MM. Alverez and Tavel have not as yet succeeded in cultivating the bacillus of smegma, and therefore have not been able to experiment upon its pathogenic powers.

THE COMMITTEE ON ORGANIZATION OF THE NINTH INTERNATIONAL CONGRESS.

The *Medical News* for August 29, under the head of "The New Committee on the Organization of the Congress and the Old Committee," gives in parallel columns what it calls "the New Committee" and "the Original Committee." In the first column, headed "The New Committee," it gives correctly the names of the seven who constituted the Original Committee of Invitation, together with the one from each State and Territory, and from the Medical Corps of the Army, Navy, and Marine Hospital Service, making a total of forty-seven members and fairly representing the Profession of the United States. In the second column, however, under the head of "The Original Committee," it gives not only the names of the Original General Committee on the Organization of the Congress, but includes also the names of seventeen other parties, who constituted no part of said "Original Committee," having acquired only an *ex officio* or nominal membership through appointment to certain officials positions in the Congress.

By this erroneous and deceptive method, the *Medical News* makes its column headed "The Original Committee" contain forty-two names, when no one knows better than the editor of the *News* that the Original Committee on the Organization of the Congress was composed of just twenty-five members, namely: four from New York, three from Pennsyl-

vania, three from the District of Columbia, two from Maryland, two from Massachusetts, two from Illinois, two from Georgia, and one each from Louisiana, Kentucky, Ohio, Missouri, South Carolina, California, and Canada. Eight of the twenty-five constituted the primary Committee of Invitation, and the other seventeen were selected by the eight, by virtue of their power to increase the membership of the Committee. It was this Committee of twenty-five that met in general session in Washington on the 29th of November, 1884, to adopt a plan of organization for the Congress. Only fifteen of the twenty-five were present and took part in the meeting; and the General Committee as thus constituted was never convened again in general session. Consequently the seventeen names of parties who had been assigned to prominent offices in the Congress, now added to the list to swell the number of members of the Committee to forty-two, had no more to do with the work of the Original Committee on Organization than any other members of the profession.

BACK NUMBERS OF THE JOURNAL.—We have now received a sufficient number of the copies of the JOURNAL, for which we advertised in the issue of August 22, to supply our present need, and therefore withdraw the offer then made.

SOCIETY PROCEEDINGS.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Ninth Annual Meeting, held at Greenwich, Connecticut, Aug. 26, 27 and 28, 1885.

WEDNESDAY, AUGUST 26—MORNING SESSION.

The meeting was called to order at 10 o'clock by the PRESIDENT, DR. W. A. HARDAWAY, of St. Louis.

DR. J. E. GRAHAM, of Toronto, Canada, reported

A CASE OF TUBERCULO-ULCERATIVE SYPHILIDE OF HEREDITARY ORIGIN.

The patient was a girl 20 years of age. On the right arm, from the wrist to the elbow, there was very little healthy skin, there being little but cicatricial tissue. The skin of the forearm presents elevations and depressions, and in places it is covered with thin scales. The head is not involved, and the affection does not extend deeper than the subcutaneous areolar tissue. For three or four inches above the elbow, the arm is atrophied and covered with cicatricial tissue. At the upper border of the cicatricial tissue, there is an ulcer three-fourths of an inch wide, which encircles the arm. Above this is sound tissue. No nodules are present. The left clavicle presents about its middle a swelling and ulceration about the size of a silver dollar. This was the result of a blow. There is no copper-colored appearance. The heart and lungs are healthy and the urine normal. Investigation of the family history showed that the mother was apparently healthy. Three of the patient's sisters, all younger than herself, were healthy. The father died from pneumonia when the patient was eighteen months old. It was subsequently learned that he had also had syphilitic ulceration of the throat.

The treatment consisted in the local application of a mild mercurial ointment, and the internal use of bichloride of mercury and iodide of potassium. The condition steadily improved, and in the course of six or eight weeks the ulceration had healed. The patient at that time passed from under observation.

The speaker referred to the difficulties of diagnosis in this case, as there was a complete absence of specific history, the facts in regard to the father not being learned for some time after the case had been under treatment. There was no history of any previous evidence of hereditary syphilis, but taking all the facts into consideration, the doctor thought there could be no doubt as to the correctness of the diagnosis. Photographs showing the condition were exhibited.

DR. R. W. TAYLOR, of New York, thought that it is now generally conceded that syphilis can be communicated to the child without infection of the mother, and he believed that he was the first one in America to call attention to this fact. He had seen this a number of times, and in cases where a most careful examination of the mother had been made, and the observations continued over a series of years. The doctor had stated that he could obtain no history of early manifestations of hereditary syphilis. This was not uncommon, but he believed that there is usually some indication of specific taint, which, however, may be so slight as not to excite notice, or its exact import is not recognized. These may pass away, and in the course of six months or a year, the ulcerative lesions appear, but it is not uncommon for the child to go to the age of from six to eighteen years without exhibiting this condition.

DR. C. HEITZMANN, of New York, thought that every one has seen cases similar to the one reported. He had seen such cases in which he was unable to determine at first sight the nature of the affection. The diagnosis lies between syphilis and scrofula.

DR. GREENOUGH, of New York, said that he would like to refer to the practical point to which Dr. Taylor has called attention, and that was the possibility of the father infecting his progeny, without the mother showing any signs of syphilis. Within the past two months he had seen a woman who had lost three children in succession from hereditary syphilis, yet she was strong and apparently perfectly healthy, and had never shown any signs of syphilis. This woman had been under observation for six or seven years.

DR. L. A. DUHRING, of Philadelphia, thought that there are certain cases in which it was almost impossible to express a positive diagnosis at first. The result of treatment in causing a rapid cure in the case described would certainly incline him to the opinion that this was a case of syphilitic disease.

DR. JAMES NEVINS HYDE, of Chicago, said that he had seen cases that convinced him that whilst it

is not the rule, still, occasionally, syphilitic children are born where, so far as observation can be made, no evidence of syphilis in the mother can be detected. As far as the general health is concerned, the women are usually pallid and weak, although there may be no symptoms which can be ascribed to syphilis. He had never seen inherited syphilis manifesting itself in advanced years. The more he saw of syphilis, the more he was satisfied that in its origin, heredity does not amount to very much. The accidental cases of syphilis are very common. He had seen the initial lesion of syphilis on the head of a penis where it was unquestionably due to inoculation from the finger of the surgeon in catheterization. He had no doubt the case described was one of syphilitic trouble, and, as Dr. Duhring had said, the result of treatment unquestionably points in that direction. No cases yield so readily as old cases of untreated syphilis. As to pronouncing it a case of hereditary syphilis, his experience would not permit him to do so.

Dr. W. A. Hardaway, of St. Louis, thought that it is unwise to base diagnosis on the results of internal treatment. Because a case gets well under anti-syphilitic treatment is not proof that the affection is specific in its nature. Local treatment is often all that is necessary.

Dr. R. W. Taylor said that Dr. Hyde had made the statement that these women apparently un-syphilitic who have borne syphilitic children, have in his experience been pallid and weak. He entirely disagreed with him on that point.

Dr. F. B. Greenough, of New York, then read some

CLINICAL NOTES ON PSORIASIS.

The paper was founded on the records of 394 cases of psoriasis. This number occurred in about 15,000 cases of skin disease examined, and represented about two and one-half per cent.; 205 cases occurred in males and 188 in females. Several tables of statistics were presented, showing when the cases first came under observation and the age at which the attack was first observed. A large proportion of the cases was first attacked with psoriasis between the ages of ten and forty years, but the fact that one-seventh of the cases showed psoriasis before the age of seven years was not in accordance with previous observations. In 97 cases the speaker had been able to get reliable evidence in regard to the family history. In 31 cases psoriasis had existed in a near relative, but in 66 cases the patients felt sure that the disease had existed in no other member of the family.

As regards locality affected, where there is much development, it is almost constantly found about the elbows and knees, and more frequently on the extensor surfaces than on the flexor. There is one class of cases where the affection attacks only the skin of the leg below the knee. Well marked cases are readily diagnosticated, but in some cases there is considerable difficulty in making the diagnosis. It is most frequently confounded with some form of eruption resulting from constitutional syphilis. When psoriasis affects the scalp, its appearance is often similar to that of secondary syphilis. In psoriasis, however, the patch consists simply in epithelial cells and there is no hyperæmia connected with it. In syphilitic eruption, the crust will contain other elements than epithelial cells, and on removal of the crust, spots of moisture will be detected. A characteristic symptom of psoriasis of the scalp is a band of hyperæmia, about three-fourths of an inch wide, extending around the forehead, contiguous to the hair. This is a point of value in the diagnosis between eczema capitis and psoriasis. In the former affection this band is wanting. In eczema, also, evidences of dried serum or pus will be found. Psoriasis is not accompanied with enlargement of the post-cervical glands, as is eczema. The diagnosis from favus is made by the age of the patient. The evidences of the destruction of the hair follicles in Favus and the microscopical examination. He had never been able to satisfy himself that psoriasis of the scalp ever caused permanent loss of the hair.

On the general integument, syphilides are most apt to resemble psoriasis. The regions on which the eruptions appear is important. The syphilides are apt to affect the flexor surfaces, while the psoriasis affects more commonly the extensor aspects. Psoriasis begins as a minute point of hyperæmia, which may last for several days. In macular syphilide a crop of macules appear within twenty-four or forty-eight hours, when the eruption fades. There is in syphilis a decided pigmentary change. In squamous syphilis the epithelial scales differ from those of psoriasis. In some cases of psoriasis there is severe itching, leading to scratching of the skin, and as a result scabs and crusts make their appearance; but here the cause of the condition is readily recognized. The amount of pruritis complained of in psoriasis varies, but it is rarely a prominent symptom, although in exceptional cases it is very severe. He has never seen any eruptions on the hands or feet resembling psoriasis, with the exception of eczema, which was not syphilitic.

In regard to treatment, some cases do well, while others do not. There is no specific. What will benefit one case will make another worse. In his experience tary preparations, especially the oil of cade, have been most efficacious. Great comfort may be afforded by the use of emolients. Cod-liver oil is one of the best applications. Cod-liver oil and the oil of cade (equal parts) is a common prescription. Chrysarobin is a powerful remedy, but has the disadvantage of destroying the clothing. On the face and scalp it is apt to produce dermatitis. The internal administration of arsenic in some cases is of benefit. Even after apparent recovery, there is great danger of relapse.

Dr. L. A. Duhring said that the reader of the paper, in referring to the diagnosis, did not allude to the difficulty sometimes experienced in diagnosing seborrhœa capitis from psoriasis. He had found considerable trouble in the diagnosis, particularly in young girls. In these cases the eruption was confined to the scalp.

Dr. A. R. Robinson said that in regard to the diagnosis of favus and psoriasis, there is usually no

difficulty. He did not agree with the author in regard to one of his points of diagnosis. In the early stage you do not find moisture when the crust is removed. There is a shiny appearance. It is only in advanced stages that ulceration is present. He agreed with the speaker that psoriasis always occurs in small spots at first not covered with scales. While it is true that psoriasis often disappears without producing pigmentation, yet there may be discoloration found on the lower extremities, particularly where there is a varicose condition of the veins. In some cases where there are only a few patches of psoriasis, limited to the lower extremities, it is often difficult to make the diagnosis, unless there is involvement of other parts of the body, or you have the history. There are other cases of acute psoriasis which closely resemble acute eczema. In reference to the palms of the hands, whilst we do not see cases of psoriasis limited to this condition, yet he was sure that cases have been shown in which the palms of the hands have been affected in connection with other portions of the body.

DR. J. C. WHITE, of Boston, agreed with the previous speakers in regard to the difficulty of diagnosing between psoriasis of the scalp and seborrhœa. In some cases the diagnosis can not be made for months. In all parts of the body pigmentation may follow psoriasis, but never over large areas. He called attention to one termination which he had seen in three cases, and that was a degeneration into epithelioma.

DR. R. B. MORRISON, of Baltimore, had seen a great many cases of psoriasis, but could recall only one or two cases of psoriasis in the negro. In such cases, there is a loss of pigment.

DR. G. H. FOX, of New York, thought that too much stress was laid on the general rule that psoriasis occurs most frequently on the extensor surfaces, the knees and the elbows. It is a notable fact that in general psoriasis, the vicinity of the knee and elbow escapes. Many cases of psoriasis occur in weakly subjects, while on the other hand, many cases of eczema appear in robust persons. In every individual case, the better the patient's health, the less likely is he to suffer from a recurrence of the affection. He had been very successful in the treatment of psoriasis, and in its management. He adopted the teaching of the late Tilbury Fox, who laid stress on the point that in psoriasis, as in other inflammatory affections of the skin, and also in lupus, the first thing to do is to lessen the congestion of the skin. He did this by restricting the diet. He cuts off the meat and orders a diet of fruits and vegetables in the summer, and in the winter gives a carefully restricted diet. Tea, coffee, tobacco, and stimulants of all kinds are to be cut off. By so doing more will be accomplished than is obtained by using arsenic and local applications at the start.

In regard to local remedies, he never uses tar in the treatment of psoriasis. With the application of chrysarobin made at the proper time, there is no necessity for the use of tar. He had seen many cases in which this drug did no good, but this was because the application was made when the patches of psoriasis were in a congested condition. If the acute congestion is lessened, chrysarobin will produce beneficial results.

DR. C. HEITZMANN thought that one of the most important points after making the diagnosis is to decide as to the acuteness or chronicity of the affection. If it is acute, local applications are to be avoided. If the case is chronic chrysarobin may be used with advantage, at least temporarily. It is not a cure. He agreed with Dr. Fox that restriction of the diet is important for the purpose of lessening the congestion. Tar can not be dispensed with. Chrysarobin remedies the disease for a time, but in a few months it returns. There is nothing like tar to prevent the recurrence. No mention had been made of pyro-gallic acid, which does good in some cases. There are, however, some cases which can not be treated successfully with any remedies. The disease will steadily grow worse.

DR. W. A. HARDAWAY believed that in psoriasis we have a disease situated in the skin itself. It is frequently hereditary. The same sort of skin may be transmitted just as a certain color of the hair or of eye may be transmitted, and then any exciting cause may develop the psoriasis. Traumatism is frequently the exciting cause. He had seen psoriasis follow eczema. It is not unlikely that in seborrhœa of the scalp there may be the development of psoriasis. Internal causes may produce it. He had seen the excessive use of oat-meal produce typical psoriasis.

In the treatment of psoriasis it is important to regulate the diet and aid digestion in all possible ways. As a local application, he considered that chrysarobin, with salicylic acid, was very useful in chronic cases. Arsenic is useful on account of its action on the skin. This treatment may be followed up by the application of sulphur ointment. In psoriasis of the scalp sulphur is quite an efficient remedy.

DR. GREENOUGH said he had not intended to cover the entire ground of psoriasis in his paper. The omission of a consideration of seborrhœa was an oversight. In regard to pigmentation, he referred especially to those cases of psoriasis of the trunk, which were most apt to be confounded with syphilides.

DR. J. C. WHITE, of Boston, then reported some

CASES OF ANGIOMA FIGMENTOSUM ET ATROPHICUM.

Two cases were reported. The first patient was a young man 17 years of age, and a Russian Pole by birth. Freckles appeared on his face before he was 2 years of age. These increased in number until the age of 6. When the telengiectasic condition first appeared is not noted. When seen, the patient was well developed and apparently in good health. He has, however, grown slowly, and is now no larger than a boy of 12. The hair of the head is abundant and intensely black. The eyes are also black.

Present Condition.—Melanosis. The forehead and lower portion of the face are of a dark-brown color, and on close inspection, small spots of a darker color are seen. The whole trunk is as dark as the skin of a dark Spaniard. The scrotum is very black, and the

penis and glans present dark spots. The arms and hands are thickly spattered. The legs are also affected. On the right thigh there is one spot of dark color, covered with rather long hair. The mucous membrane of the mouth and pharynx is free from melanosis.

The Atrophic Condition.—On the right side of the face occupying one-half the surface, is a sharply defined area of white cicatricial looking skin. Similar areas are seen on the other cheek, forehead and about the mouth. A few white spots are seen on other portions of the body. The sensibility of the affected areas is decidedly lessened.

Telengiectasis.—Over parts of the face, there are bright red spots, varying in size from a pin's head to a pea. They are most noticeable in the atrophied portions. Within the lids, there are two angiomatous new growths. Several vascular twigs are also seen on the face. A few red points are found on the feneral surface.

The second case is a brother of case 1, aged three years, born in New York. When 18 months old, little colored freckles were noticed on the face. Since then the condition has been developing. His hair is dark brown and eyes are black. The face is covered with numerous dark brown freckles. The spots are so close together that at a little distance, the skin has a uniform color. In some places, the spots are slightly elevated. The backs of the hands are covered with dark-brown spots; elsewhere the skin is clear. There are no leucodermic spots and no angiomatous condition.

From a study of these cases, he concluded that in the beginning, the development of these spots can not be distinguished from ordinary freckles. Gradually they multiply until they involve a considerable portion of the skin. It is probably, that several years may advance without other manifestation of the disease. The telengiectasic condition is probably secondary. In the first case it is most developed in the atrophic portion. It is probable that in this case, there will be hypertrophy of the epithelium and final transformation into epithelioma. This has been the result in the thirty-three cases which have been reported.

Dr. Taylor thought that there was a direct relation between the red spots and the macules. The history of the cases which he had seen, had been first a rash, then the red spots, and then the macules. In one case, the teleniectasis followed exposure to heat.

Dr White recognised a great difference in this disease as described by various writers, but he insisted on the correctness of his own observation. The younger child had exhibited none of the precedent hyperæmia which has been noted in some cases. The patient has been observed after exertion and when exposed to intense heat, but there has been no hyperæmia. The same is true of the first case as far as known. In the second case which is still developing, there is no enlargement of the vessels.

(*To be concluded.*)

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR OWN CORRESPONDENT.)

Passage of Pathogenic Microbes from the Mother to Fœtus—The Couveuse—Experiments after Decapitation—Duration of the Excitability of the Brain—The Death of Milne-Edwards.

M. Koubassoff lately made a very interesting communication at the Academy of Sciences relative to the passage of pathogenic microbes from the mother to the fœtus, and of the passage of the parasite of charbon in particular, which has a real practical importance as regards the preservative action of charbon inoculation. The following is a summary of M. Koubassoff's note on the subject: 1. The bacilli of charbon always pass from the mother to the fœtus; 2. The longer the duration of time that elapses between the inoculation of the pregnant female and her death, the more numerous will be the microbes in the fœtus; 3. A greater number of virulent bacilli of charbon than those of the attenuated kind always passes from the mother to the fœtus; 4. The pathological condition of the membranes of the placenta and of the fœtus, as well as the death of the latter, prevent the passage of the bacilli from the mother to the fœtus; 5. The inoculation of pregnant females with too strong vaccine material causes almost always the death of the fœtus; 6. The inoculation with cultivated material of a pregnant female, who has already been inoculated, almost always kills the fœtus—those who survive after the inoculation with cultivated material are those that have not been sufficiently vaccinated by the mother.

In a former letter I gave an account of a cradle adopted at the Paris Maternity for the use of newborn infants of feeble constitutions, and particularly for those of premature birth, to which the name of "couveuse" was given. This brought up the reduced temperature of the infants to about the normal (37° C.), and, by a simple arrangement, maintained it at that degree. Professor Tarnier, surgeon-accoucheur at the Maternity has now introduced a system of feeding such infants with milk passed through an india-rubber catheter (No. 16 of the French scale), one end of which is introduced into the stomach, and to the other end is adapted a small glass funnel, through which is passed from three to fifteen grammes of milk, that of a woman being preferred. As soon as the milk enters the stomach the catheter should be removed without delay, as otherwise vomiting may be provoked, which, of course, would render the operation useless. The "gavage," as this mode of feeding is termed in French, should be repeated every hour, and continued until the infant is strong enough to suck for itself. Professor Tarnier is convinced that infants born before the seventh month, and even those of the sixth month, could be brought up in this way. At this meeting of the Academy M. Tarnier presented two infants whose lives were saved by this method. The first was one of twins. It weighed 1,020 grammes at its birth, and the mother stated that the date of concep-

tion could scarcely extend beyond six months. The weight of the infant, a short time after its birth, fell to 950 grammes, but under the influence of this artificial feeding it soon mounted up to 1,015 grammes. Twenty days after its birth the child was able to take the breast. Its twin brother, born with a weight of 1,120 grammes—that is to say, with a superior weight—did not survive. The second infant that was presented was seen by M. Tarnier only three days after its birth; its weight, which was 1,100 grammes, descended to 1,000 grammes, but under the influence of the gavage it rose gradually, and at the date of its presentation, it was scarcely a month old, it weighed 1,500 grammes. This method of feeding infants of weak constitutions, whatever be the cause, and if unable to take the breast, would, M. Tarnier thinks, be the means of saving many a life, and he added in his note on the subject that the couveuse would be an indispensable complement to the above method in such circumstances, for he has seen infants affected with sclerema, appearing to be doomed to imminent death, recover in twenty-four or thirty-six hours.

With reference to the experiments that were performed on the head of a man guillotined at Troyes, and to those that were performed previously under the same circumstances, M. Paul Bert made the folremarks at a recent meeting of the Société de Biologie of Paris: In a general way it appeared to him that such experiments were of little or no value, and those who performed them exposed themselves to a great moral responsibility. The objects in view in performing these experiments may be divided into two categories—the one, to study on the decapitated man the mechanism of a certain number of phenomena of the circulation, of secretion, etc. These results may be obtained by practising on animals, and in ten times better conditions. In the other groups of experiments it is proposed to determine whether, after decapitation, intelligence persists, or whether it has disappeared, and, in the latter case, whether it is possible to make it reappear. It is now generally admitted that after decapitation consciousness is abolished, and even admitting that, by means of the artificial injection of blood, it may appear to be re-established, which, however, is only a hypothesis, yet M. Bert thinks one has no right to try such an experiment, as he compares it to torture post-mortem.

This debate was renewed at a subsequent meeting of the Academy of Sciences, in which Professor Vulpian took part. This learned physiologist quite agreed with M. Paul Bert, and added that to perform such experiments was to follow a chimera, as they never give any results worth having. Hence it would be inexcusable in any person moved by scientific passion to continue such practices.

At the same meeting Professor Vulpian gave an account of some experiments he had performed to ascertain the duration of the excitability of the brain after death. In exposing the brain of a dog at the moment of its death it is noticed that the cerebral substance is still excitable during a period varying from forty-five to sixty seconds; that is to say, that, under the influence of Faradic excitation of one side of the brain, movements are still produced on the opposite side which extend to the extremities and then to the face. When this time is passed, the Faradic excitations, even the strongest, do not determine the least muscular quivering of the opposite side. These experiments were performed on an adult dog, but it is probable that the results would be identical in other mammifers, except in hibernating animals in a state of hibernation.

M. Milne-Edwards, the celebrated naturalist, whose health had been declining for some time, died on the 28th inst., in the 86th year of his age. He took his degree of Doctor of Medicine of the Faculty of Paris in 1823. After some years he devoted himself entirely to the study of the natural sciences. He was for many years Dean of the Academy of Sciences, and Member of the Academy of Medicine. He was Grand Officier of the Legion of Honor, and member of several learned societies in France and other countries. A. B.

LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

The Use of Alcohol in Sickness—Over-Pressure in Schools—The Congress of Teachers of the Blind—Cholera Beds at St. Bartholomew's Hospital—Deodorization of Sewers—How to Bring up Babies—The Gordon Memorial Hospital.

At least two interesting papers were read at the meeting of the British Medical Association at Cardiff. Dr. Norman Kerr's subject was "Ought we to Prescribe Alcohol?" and his moderate and sensible remarks may be recommended to the consideration of every physician. There were medical men (said Dr. Kerr) who seemed to order wine and spirits for patients of both sexes, and at all ages, in every ailment. There were, again, daring innovators who denied that alcohol in any form or in any quantity possesses useful medicinal virtues. Medical men ought to limit their prescription of alcohol to the occasion, taking care that the medicine was not continued after the purpose for which the stimulant was given had been gained. This pretty fairly sums up the whole question. There is small doubt, on the one hand, that many people, especially ladies, have been led into habits of secret drinking by the insidious advice of accommodating medical men, and on the other hand, it is idle to deny that, under some circumstances, wine and spirits are not only useful, but necessary medicines. The difficulty is how to prescribe alcohol in moderation without encouraging its use after the necessity has passed, and if Dr. Norman Kerr succeeds in showing how to avoid this dilemma, he will have deserved well.

The other paper, that of Dr. I. Martin on "Over-Pressure in Schools," ought to prove instructive to educational fanatics. Over-pressure, according to Dr. Martin, injures health and produces misery, both for parents and children. "Children had to pore over their lessons until ten, eleven, and twelve o'clock at night. Next morning the child could not eat its breakfast, and then followed headaches, vomiting,

nervous debility, brain fever, St Vitus' dance, curvature of the spine, heart disease, myopia, and in some cases convulsions and death." Dr. Martin went on to quote the authority of Professor Pfluger for the statement that, of 45,000 children examined in Germany, half suffered from defective vision, and from 30 to 40 per cent. of the girls from curvature of the spine.

At the opening of the Congress of Teachers of the Blind at Amsterdam, nearly 200 members from all parts of Europe were present. The President, Herr Meyer, from the Amsterdam Institute, announced that the Queen of Holland had consented to become the patron of the Congress. The Home Minister was present at the first sitting. The leading feature of the day was an address by Dr. Armitage, of London, upon American institutions for the blind. An exhibition of the works of the blind has been opened in the University buildings.

At St. Bartholomew's Hospital, forty beds have been kept ready for the reception of any cases of cholera that may be brought to the doors, should that disease unfortunately visit our shores; and an entire wing, containing nearly two hundred beds, could at a very short notice be prepared for the reception of similar cases. This wing, isolated from other wings, would be nursed by a separate staff of skilled nurses. Dr. Norman Moore having been appointed Resident Physician, responsible for the reception and immediate treatment of cases, has given up his summer holiday in order that he may be continuously on duty in the event of his services being required. At Plymouth, also, active precautions are being adopted. An old man-of-war has been moored in the Sound, and the local authorities are making arrangements to transfer there immediately all suspected cases.

The Metropolitan Board of Works have this summer taken effective measures to deodorize the outfalls and main sewers. They are now pouring into the sewers of the metropolis and at the outfalls between thirty and forty tons of manganate of soda, and from ten to twelve tons of sulphuric acid every day, and are spending between £3,000 and £4,000 a week in thus deodorizing the sewers and outfalls. The result of this work has been that the condition of the Thames might be said to be good. There are perhaps sections of discolored water, but they are offensive only to the eye, and not offensive to the smell.

The town council of Exeter have just issued a circular, which has been sent round to the women of the city, instructing them "how to bring up babies." The council, it appears, have been alarmed by the large amount of infant mortality in the city. They have therefore conferred, and the result is that they call upon the women of Exeter to keep their babies warm, to give them nightgowns with long sleeves, and to wash them all over every day. Two months babies must have milk from the breast once in two or three hours, and a six months child five times in twenty-four hours. The baby should be weaned when seven months old. The bottles, it is added, should draw easily and be kept well rinsed.

As the authorities have been unable to decide upon a suitable site on the Suez Canal for the erection of the proposed Memorial Hospital to the late General Gordon, the hospital at Port Said has been materially improved, and latrines will be erected as soon as it is determined whether the dry earth system or the pneumatic cart should be adopted. G. O. M.

DOMESTIC CORRESPONDENCE

AN OPEN LETTER TO THE EDITOR OF THE MEDICAL NEWS, OF PHILADELPHIA, PA.

Dear Sir:—As a subscriber to your journal, and as one who is wedded to the medical profession by more than fifty years of unceasing devotion to its high behests, I may justly claim the privilege, if not the right, to address you, who have hitherto been acknowledged as one of the honored exponents of medicine, and an able defender of its unimpeachable *Code of Ethics* as set forth in the Constitution and By-Laws of the American Medical Association. And I claim that I can with propriety address you, since as delegate to the American Medical Association, at its late session in New Orleans, from the Louisiana-State Medical Society, I did not approve in its entirety the action of that body towards the Original Committee appointed at the Washington meeting in 1884, to invite, in the name of the medical profession of the United States, the meeting of the next International Medical Congress in this country, and to make all suitable arrangements for its meeting, if the invitation was accepted.

While I believe, and affirm, that the Original Committee erred and acted unwisely, and in opposition to the enlightened judgment of a vast majority of the medical profession of the United States, in whose name the invitation had been extended, and in direct conflict with the honor and integrity and dignity of the American Medical Association, in selecting and appointing to posts of honor men notoriously antagonizing and setting at naught the Code of Principles and Ethics unanimously adopted, and cherished by our best men as cardinal and sacred, binding together all true men in the profession; yet as the Committee acted in good faith, and, as they believed, for the best interests of the profession, I thought their action ought to be courteously endorsed and supplemented by a vigorous and cheerful support. But a majority of the delegates thought differently and deemed it best to add to the Original Committee other members, from all the States and Territories, to make the work more national and unsectional, and more truly to represent the medical profession of the United States in the International Medical Congress, to meet in Washington City in 1887.

Words cannot express the pain and mortification which your course, and language in the *Medical News*, have given me in relation to this subject. Instead of counseling harmony and mutual concessions in the interest of peace and the preservation of the integrity and honor of the medical profession, you have seemed to take pleasure in magnifying the dif-

ferences of opinion, in stirring up strife and sowing dissensions and even hatreds between members of the medical profession. That one, who heretofore has so nobly defended the Code of Ethics and the honor and integrity of the American Medical Association against the few agitators in New York who presumptuously imagine that they constitute the head and body of the entire medical profession of this country, and arrogantly set themselves up as above the American Medical Association, that you, its former friend and supporter, should in this the first trying hour of its nationality and authority, turn against her as you have done, is humiliating to the medical profession and mortifying to your readers.

You very erroneously, I think, assert in the *Medical News* that the American Medical Association does not represent the medical profession of the United States. Pray, sir, with all due deference, if the American Medical Association does not represent the medical profession of the United States, what medical organization does?

You are equally mistaken when you presume to claim that the few learned and scientific men in Philadelphia, New York, Boston, Baltimore, and Washington City, who are antagonizing the authority and action of the American Medical Association, are superior, in point of intelligence and scientific medical knowledge, to those who will not surrender their honor, but manfully and nobly sustain our national medical organization. And let me assure you, that the few who are rendering themselves ignobly conspicuous in trying to obstruct the action of our National Association, are not the real leaders of American thought and opinion in this country, as you seem to think they are, and as they claim for themselves. But you may, by distortion of facts and misrepresentation of honest differences of opinion, succeed in defeating the successful meeting of the contemplated International Medical Congress in this country in 1887; and you may disintegrate and disrupt the American Medical Association; but if so, what will you have gained? What will be your reward but remorse and chagrin? My dear sir, think of the consequences; retrace your steps; recall your words of evil import before it is too late; and use your talent and acknowledged ability in counselling peace and harmony in the profession, by mutual and honorable concessions on the part of each side. "*Blessed are the peace-makers.*" Respectfully,

RICHARD H. DAY.

Baton Rouge, La., August 22, 1885.

THE ORIGINAL COMMITTEE ON ORGANIZATION OF THE INTERNATIONAL CONGRESS.

TO THE EDITOR OF THE JOURNAL:

Dear Sir.—Sir James Paget's letter on the subject of the International Congress, is a wonderful example of the fulfilment of a prophecy of what he would write, made some time since by one of the self-elect. How far Sir James was inspired, the privacy of the mail prevents our knowing; but for his benefit and that of the various foreign journals which are being brought into service at this time with surprising simultaneity, the following facts are here set forth, to which not one of them have yet referred:

I. That the Committee of Seven (afterwards eight) who were appointed *by the American Medical Association* to invite the Congress to the United States, and to make a preliminary organization, were:

1. Austin Flint, Sr., of New York.
2. I. Minis Hays, of Philadelphia.
3. J. S. Billings, of U. S. Army.
4. J. M. Browne, of U. S. Navy.
5. C. Johnston, of Baltimore.
6. L. A. Sayre, of New York.
7. G. J. Engelmann, of St. Lous.
8. H. F. Campbell, of Augusta.

II. That the principal officers selected for the Congress *by these seven* (eight) were:

1. Austin Flint, Sr., *President, and Member of Executive Committee.*
2. I. Minis Hays, *Chairman of Executive Committee.*
3. J. S. Billings, *Secretary-General, and Member of Executive Committee.*
4. J. M. Browne, *Treasurer, and Member of Executive Committee.*
5. C. Johnston, *Member of Executive Committee.*

This constituted a *majority* of the Executive Committee, which is all anybody wants in an executive body. The others were, however, not wholly unprovided for:

6. G. J. Engelmann, *Secretary of the Section of Gynecology.*
7. H. F. Campbell, *Vice-President of the Congress.*

Perhaps Sir James Paget will favor us with some deductions from the premises, and oblige A. M. A.

BOOK REVIEWS.

THE TECHNOLOGY OF BACTERIA INVESTIGATION. EXPLICIT DIRECTIONS FOR THE STUDY OF BACTERIA, ETC. By CHARLES S. DOLBY, M.D. Published by S. E. Casino & Co., Boston. Chicago: Jansen, McClurg & Co.

This work is intended to give quite exhaustively the methods used by various observers in the study of bacteria. In the first part, entitled "General Directions," the different methods which have been employed for studying bacteria in air, water, living organisms, and preserved or hardened specimens, are described. Special methods of preparation for photographic purposes are also considered, as well as the various forms of culture experiments, vaccination and inoculation experiments, and the general biological phenomena of bacteria. The second part is devoted to descriptions of the methods that have been used for finding and studying the special microbes of the different diseases. Twenty-five such diseases are considered, and when more than one form of microbe has been found and thought pathogenic by different observers, each has been described. Part third is devoted to formulæ of the various staining and other reagents, and culture media.

The book will therefore be seen to be quite ex-

haustive in its description of methods of study. Little or no space is devoted to a discussion of the true pathogenic nature of the various microbes, but all is given to a consideration of the technology of the study. The book will, therefore, be found particularly valuable to those who wish to study bacteria practically in the laboratory. The author, in the preface, expresses the wish that it may stimulate such work in this country; a wish in which we heartily unite with him.

A particularly valuable feature of the book is the very full enumeration of the works constituting the literature, which is appended to each subject.

ASSOCIATION ITEMS.

MEMBERSHIP BY APPLICATION.

At the meeting of the American Medical Association held at Washington, in May, 1884, an amendment to Regulation II was adopted, which provides that membership in the Association shall be obtainable by any member of a State or County Medical Society recognized by the Association, upon application endorsed by the President and Secretary of said Society; and shall be retained so long as he shall remain in good standing in his local Society, and shall pay his annual dues to the Association. Hitherto attendance as a delegate at an annual meeting has been necessary in order to obtain such membership.

Application for membership, accompanied with FIVE DOLLARS, for annual dues, and the Certificate of Membership in the local Society, should be sent directly to the undersigned, on receipt of which the weekly JOURNAL OF THE ASSOCIATION will be forwarded for one year.

RICHARD J. DUNGLISON, M.D., *Treasurer.*
Lock Box 1274, Philadelphia, Pa.

MISCELLANEOUS.

MEDICAL SOCIETY OF VIRGINIA—SIXTEENTH ANNUAL SESSION.

The Medical Society of Virginia will convene at Alleghany Springs, Montgomery County, Va., at 7:30 o'clock, Tuesday night, September 15, 1885. Alleghany Springs is about four miles from Shawsville, on the Norfolk and Western Railroad, twenty-three miles west of Roanoke, and seventy-seven miles west of Lynchburg. Shawsville is the station for which all railroad passengers must secure their tickets.

The Address of Welcome will be delivered by Dr. Isaac White, Physician to the Springs, and the Report of the Committee to Nominate Applicants for Fellowship will be presented and acted on. Dr. H. M. Clarkson, of Hay Market, Va., will then deliver the Address to the Public and Profession. The President, Dr. Samuel K. Jackson, of Norfolk, will then deliver the President's Address. Dr. Isaac White, of Shawsville, Va., will read a paper on the Medical Virtues of the Alleghany Springs Water, Va. Any business of a general character may next be transacted, and announcements of programme, etc., will be made before adjournment. On Wednesday morning, the Society will be called to order at 10 o'clock. After the usual form of opening the meeting, the Reports of the Secretaries, the Treasurer, the Committee on Publications, the Executive Committee, the Necrological Committee, the Committee appointed in 1884 to confer with the professions of Virginia, West Virginia, and North Carolina with reference to the organization of a Tri-State Medical Association (Dr. Joseph A. White, Richmond, Chairman), and the Report from the State Board of Medical Examiners, will be severally called for and disposed of. New business may be then introduced.

The subject for general discussion—Scarlet Fever—will be taken up at 11:30 A.M., Dr. Thomas J Moore, Richmond, Va., leader. After Dr. Moore will have opened the discussion, other Fellows and delegates will be entitled to the floor for remarks in the order in which they may be recognized by the Chair. It is expected that those who enter into the discussion will prepare their papers beforehand, or else, immediately after the discussion, will furnish notes of what they may have said to the Secretary, in order that the remarks may be correctly entered on the records of the session, and thus prove of lasting value to the Society. If any time remains after the discussions till dinner hour, it may be occupied by new business, motions, communications, etc.

The Afternoon Session will be devoted to the election of officers and annual committees, including the Necrological Committee for the succeeding term, and of the Fellow to deliver the Address to the Public and Profession in 1886. The election of Honorary Fellows will also be in order, as also the selection of the subject for general discussion, 1886, and the leader in the discussion. The place of meeting of the Seventeenth Annual Session is also to be selected.

The Night Session will open with the call for Reports on Advances in the several departments of medical sciences, and the following order will be observed until adjournment to Thursday morning, when the call will be continued until the order is completed:

1. *Report on Anatomy and Physiology*, by Dr. T. O. Jones, of Harrisonburg.

2. *Report on Chemistry, Pharmacy, Materia Medica and Therapeutics*, by Dr. M. G. Ellzey, Washington, D. C.

3. *Report on Obstetrics and Diseases of Women and Children*, by Dr. S. W. Dickinson, Marion, Va. In this section the following papers will be presented: (*a*). Successful Treatment of Lacerations of the Os Uteri, without Surgical Operation. By Dr. Bedford Brown, Alexandria, Va. (*b*). Puerperal Septicæmia, especially with Regard to Prophylaxis and Etiology. By Honorary Fellow Dr. George T. Harrison, New York, N. Y. (*c*). Infanticide. By Dr. Chas. R. Cullen, Henrico Co., Va.

4. *Report on Surgery*, by Dr. H. Gray Latham, Lynchburg, Va. In this section the following paper will be presented: (*a*). Treatment of Hip-Joint Disease. By Dr. Lewis Wheat, Richmond. Va.

5. *Report on Practice of Medicine*, by Dr. Rives Tatum, Harrisonburg, Va. In this section the following papers will be presented: (*a*) Clinical Notes on Carcinomatous Affections of the Digestive Organs —the Unreliability of Gastric Symptoms as Evidences of Gastric Pathology. By Dr. R. C. Powell, Alexandria, Va. (*b*). Etiology of Zymotic Diseases. By Dr. M. A. Rust, Richmond, Va. (*c*). Dyspepsia, with Neurasthenia and Somnolence. By Dr. M. L. James, Richmond, Va.

6. *Report on Hygiene and Public Health*, by Dr. William H. Coggeshall, Richmond, Va.—his subject being Lessons Taught by the Recent Plymouth (Pa.) Epidemic. In this section the following paper will be presented: (*a*). Cremation. By Hon. Fellow Dr. J. Edgar Chancellor, University of Virginia,

7. *Report on Ophthalmology and Otology*, by Dr. Philip Taylor, Richmond, Va. In this section the following papers will be presented: (*a*). Clinical Notes and Practical Observations from Richmond Eye, Ear and Throat Infirmary. By Dr. Joseph A. White, Richmond, Va., Senior Surgeon. (*b*). Report of Cases of Tracheotomy in Lupus of Larynx and Diphtheria. By Dr. Chas. M. Shields, Richmond, Va.

8. *Report on Psychology and Neurology*, by Dr. Wm. C. Dabney, Charlottesville, Va. When this order shall have been completed, call will next be made for Voluntary Scientific Papers, Contributions, and Reports. Miscellaneous business matters not heretofore introduced or disposed of, will then be in order until the adjournment of this annual session.

During this session, the Fellows and delegates in attendance will be the guests of the Alleghany Springs Management, and hence will not be charged for board and lodging. On the arrival of each train at Shawsville, transfer coaches will be in waiting to convey passengers to the Springs—about three-quarters of an hour's ride. Liberal rates of travel have been made with railroads.

Eastern bound trains (from Bristol, etc.), arrive at Shawsville at 11:58 A.M. and 10:17 P.M. Western bound trains (from Lynchburg, etc.), arrive at 8:47 A.M. and 9:03 P.M.

THE ALLEGHENY COUNTY MEDICAL SOCIETY AND THE INTERNATIONAL CONGRESS.

At a meeting of the Allegheny County Medical Society, of Pennsylvania, held August 25, 1885, the resolutions passed at the July meeting were rescinded, and the following preamble and resolutions, offered by Drs. E. A. Wood, J. C. Dunn and A. M. Pollock, were adopted by the Society:

Whereas, In the unfortunate state of affairs now existing relative to the proposed meeting of the International Medical Congress to be held in Washington, D. C., in 1877, it becomes the duty of every physician who has the welfare of the profession at heart to give the matters of difference calm and deliberate consideration, and

Whereas, The basis of organization of the International Congresses heretofore held has been broad enough to include the regular medical profession of all sections and countries, therefore be it

Resolved, That we reaffirm our allegiance to the American Medical Association and its Code of Ethics.

Resolved, That we hereby endorse the action of the American Medical Association at its meeting in New Orleans, whereby *from its own membership* it added to the original Committee of Arrangements one from each State and Territory and from the Medical Corps of the U. S. Army, U. S. Navy, and Marine Hospital Service.

Resolved, That this Society endorses the action of the Committee of Arrangements at its recent meeting in Chicago, in deciding that all persons by it appointed to, or recommended for, *official positions* in said Congress, shall be members of Associations in *affiliation with and* therefore *responsible to* the American Medical Association.

Resolved, As the deliberate sense of the Allegheny County Medical Society of Pennsylvania, that the proposed meeting of said International Medical Congress should be organized on the same liberal and enlightened foundation as those preceding, and to that end we earnestly recommend the Committee of Arrangements to discard the Code questions as far as *membership* is concerned, and to open the door to all members of the regular medical profession who may comply with the requirements of registration.

Resolved, That the Secretary furnish a copy of the foregoing resolutions to the Secretary of the Committee of Arrangements, to the Secretary of the American Medical Association, and that he shall also furnish copies of the same to JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and to the *Medical News* for publication. J. G. CORNELL, Sec'y.

Pittsburgh, Pa., Aug. 27, 1885.

DR. EUGENIUS A. HILDRETH, one of the most prominent physicians in Wheeling, W. Va., died at his residence in that city on August 31, in the sixty-fourth year of his age. He graduated at the Ohio Medical College in 1844. He was a member of the American Medical Association, of the West Virginia State Medical Society, and an honorary member of the California State Medical Society and of the Victoria Institute of Great Britain.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 22, 1885, TO AUGUST 28, 1885.

Kane, Jno. J., Capt. and Assistant Surgeon, granted leave of absence for one month, to take effect when his services can be spared. (S. O. 195, A. G. O., Aug. 26, 1885.)

Ebert, R. G., Capt. and Assistant Surgeon, assigned to temporary duty with U. S. troops at Riverside Park, N. Y. (S. O. 179, Dept. of the East, Aug. 24, 1885.)

Stephenson, Wm., First Lieutenant and Assistant Surgeon, granted leave of absence for one month, to take effect Sept. 1, 1885. (Ft. Niobrara, Neb.) (S. O. 79, Dept. of the Platte, Aug. 20, 1885.)

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING AUGUST 28, 1885.

Jones, Wm. H., Surgeon, detached from the Wachusett, and waiting orders.